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fueloil & oil heat

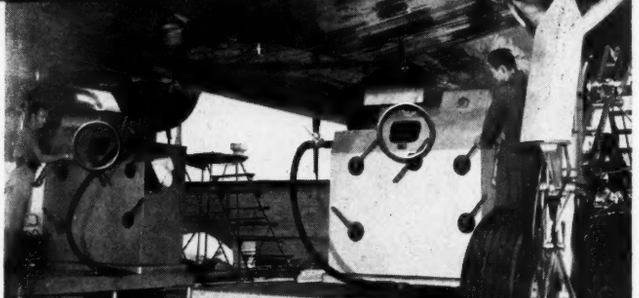
...ds in the Columbia Gorge—Oregon Story page 62

Calibrating Wing Tanks

OF PANAGRA CLIPPERS...

Calls for THE EXACT GALLONAGE MEASUREMENT OF *Brodie Meters* EQUIPPED WITH BRODIMATIC COUNTERS

Knowing the exact fuel capacity of each wing tank of these huge trans-ocean airliners is of utmost importance. A slight discrepancy of 4 gallons in each wing tank could mean the loss of revenue of one paying passenger, each trip. Likewise, flight fuel loads must be computed to insure maximum passenger pay loads under prevailing flying conditions with ample reserve as a safety factor. Brodie Meters installed on calibrating test stands, in fueling pits, and airport refuelers fill the exacting service requirements of plane manufacturers and airline operations. For full details on Brodie Meters, *Write today.*



Views above, show the application of Brodie Meters, equipped with positive direct-reading Brodimatic Counters, on wing-tank calibrating test stands.

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

RALPH N. BRODIE CO., Inc.
953 61st Street, Oakland 8, California
Representatives and stocks in all principal cities.

Division Offices: CHRYSLER BLDG., NEW YORK CITY
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SINCE 1927

VOL. 6, NO. 1

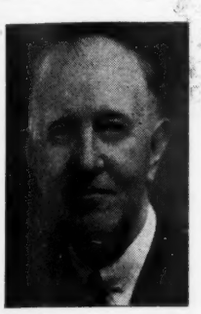
fueloil & oil heat

MAY

1947

Names in the News

A. E. Whitehill has been named national secretary of the Distribution Division of Oil-Heat Institute of America, it has been announced by J. A. Collins, national chairman. He will make his headquarters in New York after a few weeks in Chicago to become familiar with the past operation of the division. His services will be available to the country-wide distribution membership. Mr. Whitehill formerly was with the National Association of Manufacturers and the Manufacturers Association of Connecticut. During the war he was regional director for New England with Training-Within Industry, serving more than 1000 industries.



Robert J. Neu joined the sales force, Monogram Combustion Chamber Co., Philadelphia 4, Pa. on April 1. Mr. Neu has had two years' experience in plastic merchandising, in addition to four years' service in the Navy. His addition is another step in the company's merchandising program to assist jobbers in the sale of Lite-Cast combustion chambers.

James G. Brown has been appointed district representative, Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill. He will operate from the Chicago branch office and cover Cook, McHenry, Lake and DuPage counties, Illinois and Lake County, Indiana. His past experience has been with General Electric as a development engineer and with General Electric X-Ray Corp., working on design and production of X-ray tubes and controls. For four years before joining

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MEET THE JUNIOR MEMBER OF THE "GA" FAMILY

MODEL GAF—General Automatic Conversion Burner . . . combines dependability with fuel economy. Approved by underwriters laboratories. Mass production makes possible immediate delivery anywhere in the United States. It's complete with standard controls. This type GA burner is installed in thousands of homes on the Atlantic seaboard.

SPECIFICATIONS

Motor—1/6 H.P., 110 v., 60 c.
Transformer—10,000 v. Intermittent ignition.
Fuel Unit—Underwriters listed design combining pump regulating valve and filter.
Controls — Underwriters approved thermostat, limit control, and stack relay.
Nozzle and Electrodes — Improved design, full length rods.
Blower Tube—3 lengths (7", 10", 13").
Drive coupling — Flexible rubber, self-aligning.
Capacity—Maximum rate, 3 gal. per hr.; min. 1 gal. per hr.
Finish — Baked enamel, crinkled green.

The complete General Automatic line includes Conversion Burners (four styles), Oil Furnaces (boiler-burner units), Winter Air Conditioning units, and Water Heaters. Manufactured in America's finest factory devoted exclusively to oil heating equipment. Attractive dealer franchises open in protected territories.

America's Finest *Oil Burner Factory*

GENERAL Automatic

. . . . CHECKS FIRST WITH THE FINEST

GENERAL OIL BURNER CORP. • 2300 SINCLAIR LANE • BALTIMORE 13, MD.
Established 1924

Williams in 1945 he was with the Chicago Ordnance District as engineer on artillery contracts for the Army.

J. A. MacDonnell, former district manager in the Ohio and Michigan area, has been named manager of oilheating equipment sales, Gilbert & Barker Mfg. Co., West Springfield, Mass. He succeeds Lawrence Marchese, who has been named assistant to K. S. Edwards, manager of service station equipment sales. All three men are long-time Gilbarco men.

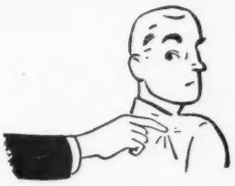
MacDonnell

J. L. (Jack) Gillen is president and general manager of the recently organized Gilcor Products Corp., Dowagiac, Mich. Mr. Gillen, formerly occupied similar positions with J. L. Gillen Co., and is well known in the water heater and automatic furnace field. Products of the new corporation will include oil and electric water heaters and automatic furnaces. Full production is expected by summer.

Gillen

Brison Wood has been elected treasurer, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., succeeding *Willard L. Huff,* who has been serving as executive vice president and treasurer. Mr. Huff will continue as executive vice president and a director of the company. Mr. Wood joined Minneapolis in 1942 to assist in expediting war production, and was elected assistant secretary and assistant treasurer the following year. Mr. Wood previously has been associated with Bemis Bros. Bag Co., St. Louis; trust department, First Trust and Savings Bank, Pasadena, Calif.; Coldwell, Banker and Co., real estate brokers, Los Angeles.

Wood



Will your next truck be "Job-Rated"?

ARE YOU trying to get along with trucks that are uneconomical to operate?

Are your costs high as a result of trucks that don't fit your particular hauling needs?

If so, you're probably considering replacing your equipment with trucks that really fit your job, save you money!

It stands to reason that a truck that fits your loads and operating conditions—will give better performance, better service to your customers, and operate at lower cost.

To give you exactly the right truck for your loads . . . over your roads . . . Dodge builds 175 different *"Job-Rated"* chassis models.

In each, you get exactly the right one of 7 engines—to give the pulling power you need with the economy you want.

You get exactly the right one of 5 clutches, 4 transmissions, 18 rear axles . . . the right springs, brakes, and other chassis units . . . for "top" performance, longer life.

To make sure that your next truck is *"Job-Rated"* to fit your job, see your Dodge dealer . . . because *only* Dodge builds *"Job-Rated"* trucks!

DODGE DIVISION OF CHRYSLER CORPORATION

ONLY DODGE BUILDS "Job-Rated" TRUCKS

Fit the Job . . . Last Longer !

fuel oil & oil heat

Editorial Leaks

In the discussion going around the industry over the possible shortage of all oil products during the next 18 or 20 months, there is an inclination to fall back on the economics of the situation and believe that we'll get all the heating fuel we want if we will pay more for it.

The fallacy of this view is seen in the fact that large Midwest marketers have been down at the Gulf bidding up offers to refiners for gasoline to the point where it is now much more profitable to run gasoline than fueloil, diesel oil, or most any other product.

If the oilheating industry through its fueloil distributors sets out to raise the amount of their product available by working the price up another cent or two, there is no question but that gasoline will go up at least as much.

There is reason to believe that the oil industry will meet all of its domestic demands, in spite of the current scare stories, but if this should prove impossible for any reason then business statesmanship of a very superior brand is going to be needed. The industry will have to ration some products at the source, after making difficult decisions on which are most necessary to a continuance of American living standards, and which will contribute most to long range public appreciation of the industry.

In such an analysis it would be hard to conceive of gasoline for pleasure driving being more essential than fueloil for domestic heating.

◈

One of our more inquisitive readers admitted recently that we had kept him awake all one night. There had been a "Readers' Problem" published from his town, signed A.R.S., and though he knew every oilheating man in town, he couldn't place A.R.S. Instead of going to sleep he kept reviewing the names of dealers and their service men.

It was necessary to break the news gently that all his effort had been in vain. In order to hide the identity of those who ask for help, we scramble the initials. It saves embarrassment and avoids giving competitors any personal advantage with the inquiring dealer's customers and prospects. If the town is too small for mixed initials to conceal the inquirer, we occasionally move him to the nearest city.

This practice is tough on inquisitive dealers who should be sleeping, but when a fellow needs help, he needs it all the way.

◈

Then there was the New York plumber who wrote to the Bureau of Standards that he had found hydrochloric acid good for clearing clogged drains. According to a recent issue of the *New York Herald Tribune*, the Bureau wrote back:

"The efficacy of hydrochloric acid is indisputable, but the corrosive residue is incompatible with metallic permanence."

The plumber replied he was glad the Bureau agreed with him. Washington tried again:

"We cannot assume responsibility for the production of toxic and noxious residue with hydrochloric acid and suggest you use an alternative procedure."

And again the plumber said he certainly was glad the Bureau liked his idea.

The third time the Bureau wrote back: "Don't use hydrochloric acid! It eats hell out of the pipes."

◈

Export controls on oilburners of more than six gallons per hour capacity were removed May 1, though burners of less capacity still are under export license control. Dealers generally have not looked with much favor on the sale of domestic oilburners to other countries while they were in short supply locally, but there is evidence now that all controls over burner export should be removed, and as soon as possible.

Domestic oilburner stocks in the hands of dealers have increased from 18,000 at the end of January, to 32,000 at the end of February and were up to 58,000 at the close of the first quarter. There is reason to believe the increase has not yet stopped, though dealers stocks already were above prewar levels at the end of March.

These stocks, of course, did not represent the brand of burner all dealers would have liked, but they were capable of burning oil. Better known brands still are hard to get in quantity, but this shortage is about over. Before next heating season there should be plenty of all brands. The present capacity of the industry is in excess of 5,000,000 domestic burners a year, and there is no hope that the domestic market will absorb more than 15% of this capacity.

Foreign demand now is high, and a healthy export market to absorb the excess while plants are getting into real production would benefit everybody. Volume production of burners would make possible lower prices. Dealers need have no fear that their manufacturers will export burners that should go to domestic uses, since the manufacturers recognize that one good domestic dealer is a better customer than an entire European country, and will take more oilburners year after year. Manufacturers are anxious to cultivate good customers.

The only governmental opponent to removal of export controls is the Office of the Housing Expediter, which claims they will need burners that might otherwise be exported. The industry would like to agree, but past and present performance of the Office and the housing industry makes this claim just a little ridiculous. There now are something more than 60,000 burners in dealers' hands (and more to come) with no takers. One of the chief reasons is that the atomizing burners in strongest demand for export are not the type that can be used in the size and type of house the Expediter's Office is most interested in having built. The oilheating industry is flattered by the concern Government has shown over its productive capacity, but feels that it can show more production than Government can show demand.

It is time to scrap government controls over export on all oilburners.

◈

It's spring again. Without the birds, bees and mosquitos, it is evident from the fitful, uncertain action of our oilburner, and the pretty little dandelions poking their stinking yellow heads through the lawn. And there are other signs of peace and normalcy in the land:

We have a postcard from Brooklyn which offers us oilburner complete with controls — immediate delivery — for $99.50.

Pull down your hats and button your coats, gents. Here we go!

Happy daze are here again.

. . . answering all these questions

VENTALARM* says YES!

VENTALARM* WHISTLING TANK FILL SIGNAL

1. Is it a "positive" signal — like a railroad signal? ..... Yes
   (a) Is driver continually aware during entire filling period that the fuel oil tank is filling safely? ..... Yes
2. Does it notify of unsafe tank conditions such as:
   (a) Fill or vent line not properly hooked up? ..... Yes
   (b) Plug left out of tank, venting into cellar? ..... Yes
   (c) Other improper openings in tank top? ..... Yes
   (d) Sufficient oil in tank already? ..... Yes
   (e) Trapped or plugged vent line? ..... Yes
3. Does it warn of any excessive tank pressures? ..... Yes
4. Is "shut off" point accurate and the same at every filling? ..... Yes
5. Does it allow oil to enter tank in normal and usual manner? ..... Yes
6. Does it work equally well with either "loose" or "tight" fill? ..... Yes
7. Does it work equally well whether or not burner is running? ..... Yes
8. Is it accurate enough to be taken as an exact measure in combination with "Degree Day"? ..... Yes
9. Is it simple? ..... Yes
10. Is it free from electrical wiring, electric contacts, floats and other "extras"? ..... Yes
11. Is it easy to install in all cases? ..... Yes
12. Is it mechanically foolproof? ..... Yes
13. Is it durable and long-lived? ..... Yes
14. Is it approved by national and local safety authorities? ..... Yes
15. Is it free from patent litigation? ..... Yes
16. Is it proven in performance? ..... Yes

WILL IT CUT YOUR DELIVERY COSTS? ..... YES!
WILL YOUR CUSTOMERS LIKE IT? ..... YES!
IS IT A GREAT CONTRACT SALES AID? ..... YES!

available through your favorite supply house

In filling oil burner fuel tanks, any method that falls short of *complete* safety is unthinkable. Therefore, when you buy your tank fill signal, ask *all* the questions at the left. To every one the answer *must* be "Yes!"

Why not gear your entire Spring sales campaign to VENTALARM installation? VENTALARM Automatic Delivery service will please your customers, and delivery time-savings to *you* will be 3 to 4 dollars per customer per year. Every stop becomes a drop—the driver need never enter the home.

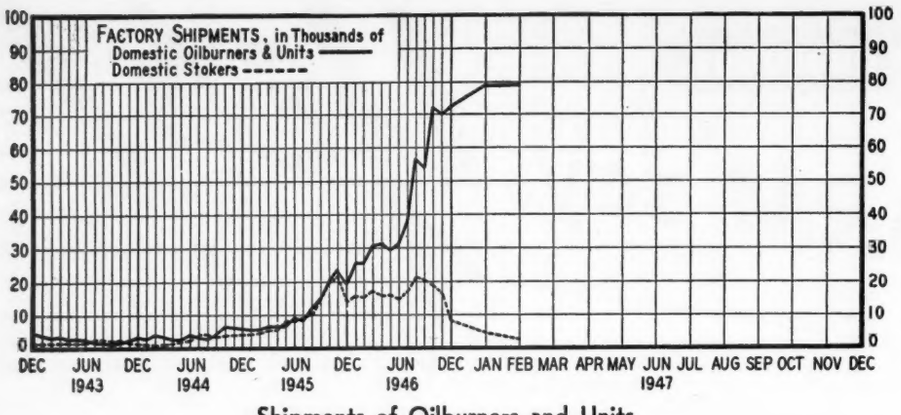
Your salesmen will find the VENTALARM booklet series valuable for both information and customer distribution. Write for it today.

*T. M. Reg. U. S. Pat. Off.

Over 1,000,000 homes now enjoy the convenience of VENTALARM signal

SCULLY
VENTALARM
T.M. REG. U.S. PAT. OFF.
Whistling TANK FILL SIGNAL
SCULLY SIGNAL COMPANY

MANUFACTURED IN CANADA BY EMPIRE BRASS MFG. CO. LTD., LONDON, ONTARIO


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units ——
Domestic Stokers ------
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943 1944 1945 1946 1947

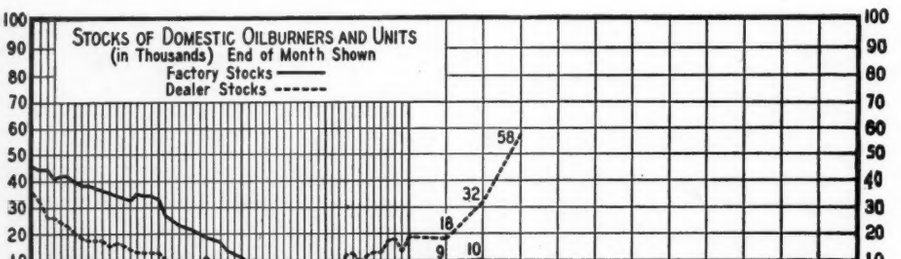
Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 162 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	FEBRUARY			TWO MONTHS		
	1947	*1946*	*Percent Change*	*1947*	*1946*	*Percent Change*
Conversion	64,167	23,735	+170.3	131,084*	47,256	+177.3
Boiler units	3,053	673	+353.6	6,855	1,262	+443.2
Furnace units	12,305	1,284	+858.3	21,797	2,724	+700.1
All domestic	79,525	25,692	+209.5	159,736*	51,242	+211.7
Commercial	4,627	2,217	+198.7	9,329	4,598	+102.9
Total	84,152	27,909	+201.5	169,065*	55,840	+202.7

*Revised


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks ——
Dealer Stocks ------
58
32
18
9
10
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942 1943 1944 1945 1946 1947

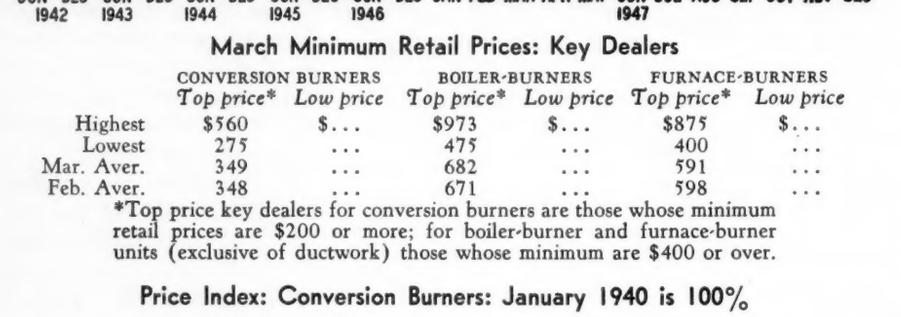
March Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$560	$...	$973	$...	$875	$...
Lowest	275	...	475	...	400	...
Mar. Aver.	349	...	682	...	591	...
Feb. Aver.	348	...	671	...	598	...

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more; for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimum are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
March	158.6	Six months ago	140.0	March	143.3	Six months ago	138.1
February	157.9	Year ago	126.6	February	144.6	Year ago	126.8


INDEX OF BURNER PERMITS
in 43 Cities ——
(Average of 1936-7-8 = 100)
INDEX OF NEW HOME PERMITS
in 35 Cities ------
(Average of 1936-7-8 = 100)
Both indexes adjusted for seasonal variation
233.8
207.0
201.3
177.0
167.9
166.4
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947

Oilheating Trends

INSTALLATIONS OF DOMESTIC oilburners and units in March are estimated at 37,044, a further substantial drop from what they had been running. By comparison, February installations had been 47,419, and January 59,090. Thus, the first quarter's total installations were 143,553, as against 79,135 in 1946. The most interesting point in an appraisal of March activity is that new orders taken by dealers were almost the same as installations, being 37,460, showing that backlogs are about cleaned up. Reference to the figures below on dealer stocks appears to say that not much of a backlog could be waiting on getting burners. Total orders for domestic burners and units booked by dealers in the three-month period were 70,186, compared with 84,370 in the first quarter of 1946. The March sales of the reporting dealers were divided: 76% conversion burners; 10% boiler-burner units and 14% furnace-burner units.

BURNER STOCKS: Dealer stocks of domestic oilburners and units on March 31 were approximately 57,698, continuing the upward swing so prevalent in recent months. At the end of February they had been 32,270 and at the end of January 18,202. It's an even guess that this month will be about the high point in the movement, because new orders are again picking up after several months downward curve.

SERVICE INCOME: Service department income of reporting dealers in March averaged $2,662, up 19% from a year ago, based on the identical list of dealers. February income had been $3,685 and January $2,945.

BURNER SALES OUTLOOK: At the time of sending in their reports this month, dealers had had about three and a half months' experience with the year 1947. Things had changed a lot from the same period of 1946.

Now that they could get burners they had to organize to sell them. They had seen new orders dip very sharply in January and February, then pick up comfortably in March. Based upon everything they can foresee in their prospect files and in their community's general business outlook, these dealers, collectively, expect a mild rise in business in 1947 over 1946. Specifically, 57% of the dealers think that

the number of burners they sell this year will be higher than in 1946, with the increase averaging 30%. Another 25% of the reporting dealers think that their 1947 sales will be below 1946 by an average of 31%. The remaining 18% expects business to stay about the same.

Putting them all together, and weighting by size of each dealer's operations, the composite opinion is that burners sold this year will be 14% higher than in 1946.

Asked if they believe that sales are now back to a more-or-less seasonal pattern of the prewar variety, nine-tenths of the dealers vote "Yes." If this point is accepted, then sales in 1947 will run to about 540,000, while if we use the expected 14% increase as our yardstick, the year's sales will run around 520,000. Somewhere in this range seems about right for a number of reasons.

Factory shipments will apparently be substantially higher, for they include exports, and with Government easing up on restrictions, step by step, 1947 burner exports will run quite far above last year's.

VHP-1 RESTRICTIONS: The fact that there are still some restrictions on installation of complete units exceeding $400 in value is a source of considerable inconvenience to dealers . . . those that pay any attention to the restriction. To learn the extent of stock tie-up that dealers might have in boiler-burners and furnace-burners, the answers to such a question indicate that, country-wide, there were only about 1,428 in stocks on March 31.

About five-sixths of the dealers report that 100% of their appeals to FHA are being granted, when they ask permission to go over the $400 sale limit. Combining the experiences of all of the reporting dealers it appears that 90% of all appeals are granted. Thus, the only reason to get the restriction removed is to avoid inconvenience.

NEW BURNER DEALERS: New oilburner dealers, who started selling this equipment since the war ended, are doing about one-fourth of total burner sales and installations, in the opinion of the reporting group, while the dealers like themselves—the old group that was here before the war—do 75%. The average old dealer who reports sold 310 burners in 1946 and sold 247 in 1941, a rise of 25.5%. However, during the war years several thousand prewar dealers went out of business, usually small dealers. That group had done about 15% of burner sales in 1941, so that the present group of old dealers actually represents 85% of prewar sales, so their rise of 25.5% is to be added to 85%, or we can say that their 1946 sales were 107% of everybody's 1941 sales. Then, since the actual rise of 1946 over 1941 is known to be about 40%, the difference between 107% and 140%, or about one-fourth of the latter figure, was done by the new crop.

FUELOIL CONTRACTS: A few thousand more fueloil distributors will go after contracts this season than last, as measured by the fact that while only 53% took contracts in 1946, 63% are now going after them. No doubt contracts are a stabilizing factor in the industry and prevent a certain amount of shifting about during the season, but in the opinion of many distributors they add to operating expenses, needlessly. Of all distributors reporting, 48% say that contracts add to sales expense, yet 52% feel otherwise, believing that they save a lot of chasing around during the season. Among those companies who say that contracts add to sales expense, the composite opinion on how much is added is 16 points, or 1.6 mills per gallon on heating distillates.

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
March		3 MONTHS			March		3 MONTHS	
1947	1946	1947	1946		1947	1946	1947	1946
..	..	..	..	Baltimore, Maryland	166	477	412	1046
..	..	..	..	Binghamton, New York	7	10	11	20
..	..	..	..	Boston, Massachusetts	27	23	47	67
79	33	275	118	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	15	10	26	46
492	..	1167	..	Detroit, Michigan	1031	1228	1974	2659
30	26	67	72	Elizabeth, N. J.	1	..	2	..
22	18	78	57	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	26	37	40	47
..	..	..	..	Hackensack, N. J.	3	23	6	25
200	78	508	144	Hartford, Conn.	..	..	..	..
31	25	68	65	Irvington, N. J.	4	3	7	3
..	..	..	..	Lynn, Massachusetts	6	5	16	9
23	8	71	44	Meriden, Conn.	..	..	..	..
135	43	413	187	Milwaukee, Wisc.	124	177	163	317
137	41	371	135	Minneapolis, Minn.	41	233	106	358
22	29	55	75	Montclair, N. J.	..	..	..	..
20	29	64	72	Mt. Vernon, New York	..	..	..	..
44	55	198	153	New Bedford, Mass.	..	..	..	..
24	15	158	71	New Haven, Conn.	..	..	..	..
0	0	0	0	New Orleans, La.	..	..	..	..
22	13	69	59	New Rochelle, N. Y.	5	23	14	36
860	401	2252	1227	Manhattan, Bronx, Rchd	..	..	..	..
86	12	269	89	Norfolk, Virginia	33	28	83	51
0	0	7	0	Oakland, Calif.	..	..	..	..
87	47	234	152	Omaha, Nebraska	71	93	111	193
11	16	26	32	Orange, New Jersey	1	..	1	..
41	20	..	62	Passaic, New Jersey	..	..	..	..
62	76	120	140	Paterson, N. J.	2	3	3	6
587	403	1716	1075	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	21	15	40	32
66	31	216	93	Portland, Maine	7	12	7	13
..	..	..	..	Portland, Oregon	196	253	408	635
81	75	296	175	Providence, R. I.	16	6	23	18
..	..	..	..	Reading, Penna.	3	5	4	6
29	47	99	120	Richmond, Virginia	48	284	136	429
107	50	316	114	Rochester, N. Y.	..	..	..	..
10	18	45	44	Rockville Center, N. Y.	18	0	23	6
32	20	84	41	Salem, Massachusetts	2	2	4	3
148	38	372	143	St. Louis, Missouri	28	52	64	90
220	125	504	330	St. Paul, Minnesota	91	132	143	232
98	37	219	86	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	208	252	490	646
..	..	..	..	Springfield, Mass.	17	70	47	89
29	21	75	57	Stamford, Conn.	..	..	..	..
..	..	..	..	Trenton, New Jersey	2	0	4	0
..	..	..	..	Utica, New York	1	6	2	7
223	141	667	487	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	1	11	9	18
19	15	48	53	White Plains, N. Y.	0	4	6	6
46	58	158	152	Wilmington, Delaware	8	45	13	45
..	..	..	..	Worcester, Mass.	..	..	..	..
34	33	96	105	Yonkers, New York	..	..	..	..
3665	2097	10,214	5967	*Totals*	2230	3522	4445	7158
+74.8		+71.1		*Percent Change*	—36.7		—38.0	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

The BURNRITE Anti-Syphon Valve

APPROVED BY NATIONAL BOARD OF FIRE UNDERWRITERS — APPROVED BY NEW YORK BOARD OF STANDARDS AND APPEALS

First Step to Oil Burner Efficiency!

As every heating man knows, oil burner performance can be only as smooth and dependable as the flow of the oil from the tank to the fuel pump.

The BURNRITE Anti-syphon Valve offers the one means by which back-syphonage can be prevented . . . it's your *first step* to oil burner efficiency.

Contributing to the important function of instant combustion, the BURNRITE Anti-syphon Valve not only prevents undue strain on the fuel pump but helps to eliminate the agitating chatter and hum of motor vibration. Being rust proof and a low vacuum operating unit, the BURNRITE requires no attention. It's a fuel flow control in its own right and in most cases eliminates need for a foot valve. There are no weights to lift in the BURNRITE Valve, thereby avoiding undue wear on pump and motor, as well as service calls.

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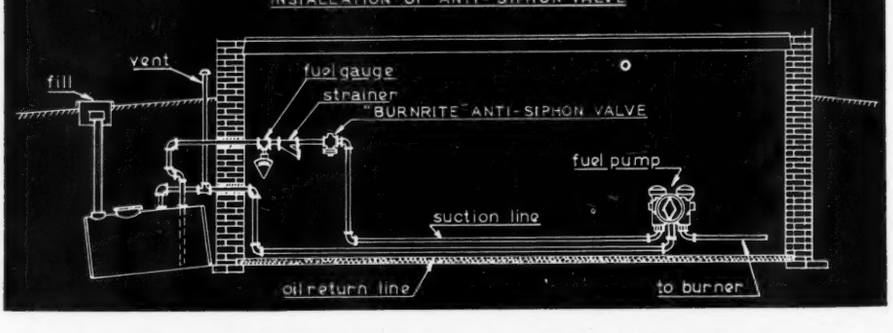
In the sketch on the right note how the BURNRITE VALVE is installed as near as practicable to the point where the oil line enters the building. This is the correct position of the valve on the oil feed line to gain the most effective result.



Diagrammatic View Showing Simplicity of Installation

BURN RITE

BURNRITE VALVE MFG. CORP.

177-M W. FIRST STREET MT. VERNON, NEW YORK

Fueloil is a Balance Wheel

Refiners Need to Protect It, Even if Some Oil Products Go Short

To an oilheating man, April, 1947 will be a month to remember. Aside from war years, he was being told for the first time that there may not be enough total petroleum products to meet the expected rising demand, and that perhaps we should discourage additional oilburner installations now. The oilburner salesman, who knows that he created the present huge dollar volume in heating oil, and handed it to the refiners, can hardly trust his hearing when he is told, "Slow down . . . you've blessed us too much now."

During the month, three men, each of them high in oil company ranks, proposed in private conversations that we warn the public through the newspapers that there probably won't be enough heating oil for everyone next season, and in this way discourage burner installations.

The paper presented by Jack Connolly of Jersey at the Atlantic City meeting of the Oil Heat Institute was a more conservative appraisal of the over-all picture. It was Jersey's view at that time, at the end of March, that if we get the expected rise in number of oilburners operating by next season, our margin of safety in fueloil supply is a bare four per cent, which calls for a much more accurate distribution job than the industry has attempted up to now. Connolly emphasized that we must know with certainty just how much product will be needed, and where and when.

More recently, however, economists in three large Eastern oil companies have stated that they cannot see daylight in the over-all supply pattern earlier than the end of 1948, and that the deficiency meanwhile appears to be around four per cent, or 200,000 barrels a day.

Curiously or not, depending upon the point of view, every such conversation veers around to an implication that the first product to start whittling is distillate heating oil.

There is little question in the minds of those economists that the threatened shortage will be met. It will have to be met the hard way, by half killing some of the individuals who take the brunt of the solutions. The oil industry has always worked that way. It knows that the stringency will be of only 18 or 20 months' duration, so it becomes clear that the industry will not take steps that would destroy public confidence in a large segment of its economy, the heating oil segment.

Why is it then that whenever we head into a tight over-all supply outlook, the first relief that some refiners think of is to throw overboard some home heating fuels?

Heating oil suffers from low visibility. It's down in the basement, quietly and simply bringing much nicer living to three million families; or else it's upstairs in a space heater, supplying healthful, uniform temperatures and relieving the drudgery and grime of coal and ashes for another three million families. There is a strong probability that the public relations value inherent in six million families in oil-heated homes will be mighty welcome in a day when the industry needs friends.

This article was a paper delivered by Robert Gray to the Fuel Oil Distributors Assn. of New Jersey at Asbury Park April 24. Prior to that, its implications and some of its data formed the basis of committee discussion on the occasion of the April 21-22 meetings of the National Petroleum Council, Washington.

We want to notice some points about the economic desirability of heating oil, but first let's dig into a few figures to measure our problem of next heating season.

The demand for distillate heating oil, nationwide, in the 1947-48 season appears to be just about 20% above the season just ending assuming normal weather conditions. The expected rise in number of burners operating will be 16% and the other 4% must be added because the weather this past season was that much milder than normal, and that much less oil consumed.

During the calendar year of 1947 we estimate new domestic central heating oilburner installations to be about 525,000. About 50,000 of these would replace old oilburners, and 475,000 would be added to the 2,936,845 in use at the start of this year, providing a total of approximately 3,412,000 in use next New Year's Day.

150 Million Barrels

In calculating fueloil needs for next season, we use the January 1 figure as average. The 3,412,000 burners will consume an average of 44 barrels . . . a total of just about 150 million barrels, or 410,000 barrels a day, assuming normal weather.

Looking further ahead, it would be well to conservatively count on an addition of a half million burners a year for three years beyond 1947, winding up with about five million oilfired central heating plants in use at the end of 1950.

Let's look for a minute at the basis for our estimate of 525,000 installations this year. Some think it will be considerably higher, because we have already installed 143,553 in the first quarter, and they believe that we are by now back to following our normal seasonal pattern. On this basis, 13.2% of the year's burners are installed in the first quarter, the average of five years just before the war. If we accept that premise, 1947 installations would exceed a million.

We are no doubt back to somewhere near seasonal volume habits, but this year we must notice a difference between installations and sales because a lot of the installations were made to fill orders taken many months ago when factories were not

shipping enough burners. The actual new sales made by dealers in the first quarter were 70,186, or less than half of the number installed. Again, installations and sales were in balance for the month of March, each about 37,000, showing that we no longer need be affected by these variations, at least temporarily.

Burner Stocks Growing

An indication of how plentiful are oilburners today, dealer stocks at the end of January, February and March were, respectively, 18,000, 32,000 and 58,000.

In evaluating, month by month, the growing distillate heating oil demand, we must use enough caution to get all of the available facts. The best figure to start with is naturally the monthly Census Bureau report on factory shipments of oilburners, and many oil companies use this report "as is." Actually, those data include exports, and of course they include stock build-up in the field, such as we have just mentioned. Moreover, they have to be adjusted for companies not reporting, and the reports cannot reflect the short-swing differences between dealer orders and dealer installations, which may be vital in unsettled economic periods.

And now that we are talking about caution in statistics, we need better stock reports for the tight period that we're heading into; the oil consumption figures that the industry now uses are not good enough for short range work. They can hurt us, and in fact they caused us some trouble this past winter. The difficulty arises from basing consumption estimates upon disappearance from primary or other large storage, without taking account of dealer or consumer storage, which has twice as much capacity for distillate fuels.

Last summer, one of the regular public reporting agencies upon which the industry depends, stated that distillate fuel consumption in the first half of 1946 was 18% above the same period in 1941, the last prewar year. We felt that this could not be true, and that we were having more short-swing trouble with storage. It happened that the number of oilburners in use in the spring of 1946 was just 18% above the 1941 period, and if the oil consumption was up by the identical measurement, then there had been no permanent reduction at all as a result of the years of rationing. All of the home insulating, the storm sashing, the weatherstripping, the night clocking and the thermostat watching had gone for naught . . . which of course couldn't be true.

Omitting the details, we learned through our monthly reporting group, who made spot checks of customers for us, that the permanent effect of rationing was just about a 10% reduction, and this was offset by a difference between dealer storage on the affected dates accounting almost exactly for the 10%. So the real increase in distillate consumption for heating in that period had been 8%, not 18%.

These things are not too vital when product is plentiful, but during the next two heating seasons, we apparently need closer accuracy.

Measure Demand

Again referring to Connally and his Atlantic City paper, he pointed out that we must know exactly where the demand is located, believing that the industry will use the figures to some advantage, even though we cannot control product distribution as we did in wartime.

The industry has basic data from several sources that would be very useful as a springboard . . . beyond that we would need to establish trends in probably a hundred sections of the country. This is now being done on a broad scale—the new problem is to get detail.

Let's now look for a minute at the economic value of distillate heating oil to the industry, recognizing definitely that any ill-advised attempts to frighten people away from buying burners this year through pessimistic publicity, will most seriously jeopardize the future of oilheating. Gas, although it is temporarily stymied in some cities, has taken the fancy of an imposing percentage of our people as a heating fuel, and will shortly be back, driving for business with the kind of sales promotion that oilheating has not been able to afford. Electric home heating, both from water power and from coal, is nearer than we like to think. Some developments of recent weeks have been eye-openers.

To the refiner, heating oil is economically attractive in several ways. Users are glad to pay whatever it's worth to get, as we have clearly learned in the past months. But to me the most important function of heating oil to the refiner is as a stabilizer, as an equalizer, a balance wheel, for it complements gasoline in many ways.

Look back to the depression of the early 1930's. Crude production dropped 22% and gasoline volume was off 10%, according to API's book, "Petroleum Facts and Figures." Distillate heating oil climbed every year . . . the volume in 1933 was 68% above 1929. And it will do that in any depression. People will use their cars less, and industry demands fall off, but folks don't stop using their oilburners. The number of new burners put in in 1933 was half of the number installed in 1929.

Price Stabilizer

Not only does such volume stabilization help refinery operating costs, but it means that fueloil prices are relatively firm when others are soft. Recall also, that the supporting volume and firm prices of fueloil are a Godsend to the oil marketer in bad times, and a lot of jobbers can maintain better balance sheets because of it.

Heating oil is a natural seasonal offset to gasoline, supporting both the economy of the refiner and the marketer. It stabilizes employment to a degree impossible through other products, unless enormous storage were substituted. Midwest gasoline jobbers have often told us that their financial problems were acute before they built up a volume of heating oil sales. Now they have as good bank balances in May as in October, and their workmen are content because they have plenty to do.

The oil industry likes to point to its success in reducing gasoline prices over the long pull from a retail price, less tax, of around 28¢ in 1920 to 17¢ today. It is a great achievement in anybody's industry, but the growing volume and rising price of distillate fuels made quite a contribution to that achievement, because they balanced the refinery's operation and carried a lot of its expense.

There is no special reason to believe that refiners and fueloil men are too far apart in their views. The fact that our whole thinking is spotlighted on heating oils, and their virtues and their problems, makes us sensitive to any implications about the desirability of this particular member of the oil family . . . sensitive to a degree not to be expected from men who have the whole family to look after.

We like to remind the refiners, as occasions permit, what a good child they have in this silent but effective good will builder and economy balance wheel, and we want to help in any way we can think of—to keep it healthy.

Liquid Gas and Coal

Oil for a Thousand Years Seen in Other Reserves

by

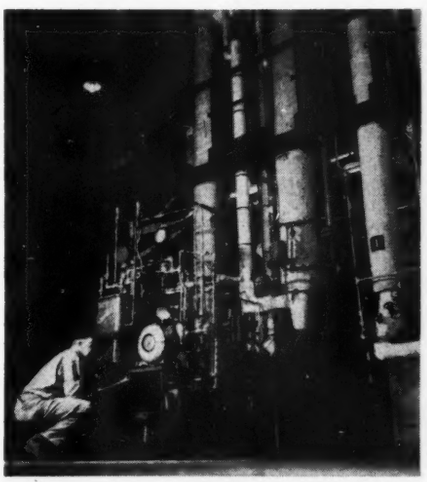
A. E. Coburn

GAS—either manufactured or natural gas—when heated to about 650°F. at 250 pounds pressure in the presence of a catalyst, liquifies to oil. This is essentially the Fischer-Tropsch process of making synthetic oil; a process, by the way, which fuelled the German war machine within a yard of world conquest. The process is important to the oilheating industry not because of its war potential, but for its implied promise of an almost inexhaustable supply of heating oil at approximately present prices.

Nobody is too much concerned about the immediate supply of natural crude oil. There is plenty for as many years as most of the present members of the oilheating industry will be interested, but the cost of finding it in quantity is constantly rising. If oil can be manufactured out of abundant natural gas, or from manufactured gas made from coal, it will hedge the future for the industry.

Forecasters differ widely in their estimates of date when 6 million domestic central heating plants will be fired by oil, but whether that level is reached in 1955 or 1970, those burners will require at least 250 million barrels of distillate each year. It has been estimated that the total crude demand by 1970 will be 2.6 billion barrels a year. If we move to that volume of demand in constantly increasing annual amounts from the present 1.77 billion barrels, simple arithmetic indicates a total need for at least 50 billion barrels of oil before the end of 1970. Present proved reserves stand at 24 billion barrels. Though we allow for new oil discoveries, extensions of present fields, and better recovery methods, it is logical to believe that oil supply may be tighter and prices higher than today.

Since the prime raw material for the manufacture of oil is gas, it is logical that American oil synthesists should start with relatively abundant natural gas. This material is rich in both hydrogen and carbon, and readily can be converted to a liquid. Though there now are 160.6 trillion cubic feet of natural gas in sight, and more yet to be discovered, the conversion of all known reserves to oil by present methods would add only 12 billion barrels, or half of the crude now in sight. The ultimate future of the oil business, say the experts, is tied to our almost unlimited coal reserves.



Laboratory set up *of Standard Oil (N. J.) for the development of synthetic oil processes.*

More than 35 years ago Friedrich Bergius in Germany forced hydrogen gas through a paste of pulverized coal at 850° and 3,000 pounds pressure, and produced the first synthetic oil from coal. This was the start of the Bergius process of hydrogenation, but the process required high pressures and relatively high temperatures. It gave way, even in Germany, to the newer Fischer-Tropsch process which required less temperature and less pressure to make oil from gas.

About 150 years ago it was found that gas from partially burned coal would burn. By heating coal in a retort with too little air to burn it, a "Producer Gas" was formed, consisting almost wholly of carbon monoxide, and with a heat value of 120 to 160 Btu per cubic foot. This was the first commercial gas. Then about 75 years ago it was found that by blowing steam into red hot coal a gas was formed with about twice the heat content of producer gas. This blue gas, or water gas, contained hydrogen as well as carbon monoxide. Carbon (C) and water (H_2O) were converted to carbon monoxide (CO) and Hydrogen (H_2). This water gas, enriched with oil gas to bring the heat content to about 535 Btu, is the principal manufactured gas sold today.

By the use of oxygen to support combustion of the coal, the Germans learned to make water gas by a continuous process. Since the coal has to be raised to about 2,000° before steam is turned on it, most water gas is made by alternately heating the coal and blasting it with steam. By using cheap oxygen with the steam, it was found that temperature could be maintained in the coal bed sufficiently high to make the operation continuous.

But the Germans also developed a more important process. They found that by raising the pressure in the retort to about 300 pounds, some of the carbon united with the hydrogen to form methane (CH_4), the chief ingredient of natural gas. While carbon monoxide has a Btu content of only 317 per cubic foot, and hydrogen has only 319, methane has 995 Btu. By this method (Lurgi process), it

Synthetic oil *sample being drawn in the laboratory of Standard Oil Co. (N. J.)*

is possible to make gas of 500 Btu or better directly from coal without enriching with oil.

Oil is made from natural gas at present by a modified Fischer-Tropsch process, in which the gas is partially oxydized by the introduction of oxygen to produce a mixture of hydrogen and carbon monoxide. This mixture is passed over a finely divided catalyst, which may be powdered metal, and in the presence of heat and pressure, these gases become liquids of varying molecular weights ranging all the way from gasoline to wax.

> The Japanese Navy was well into a synthetic oil program at the end of the war, using Fischer-Tropsch plants built on German models, and using German equipment. Japanese materials for making oil were not the best.
>
> American success in destroying the Japanese supply routes to the East Indies prompted greater efforts to get fuels and lubricants from substitute sources. They were using pine root oil, soya bean oil, rubber, sweet potato alcohol, camphor, orange peel, birch bark and pine needles. A program to build 36,000 pine root oil retorts to produce 2,500,000 barrels of oil a year was under way at the end of the war.

According to Robert E. Wilson, chairman of the board of Standard Oil Co. (Ind.), it now takes 13,500 cubic feet of natural gas to produce a barrel of oil. Two 6,000 barrel a day plants now are under construction to process natural gas to oil. It is estimated that for each 6,000 barrels of gasoline produced, there also will be 1,000 barrels of distillate fuels and another 1,000 barrels of ethyl alcohol mixed with other alcohols, aldehydes, ketones and organic acids.

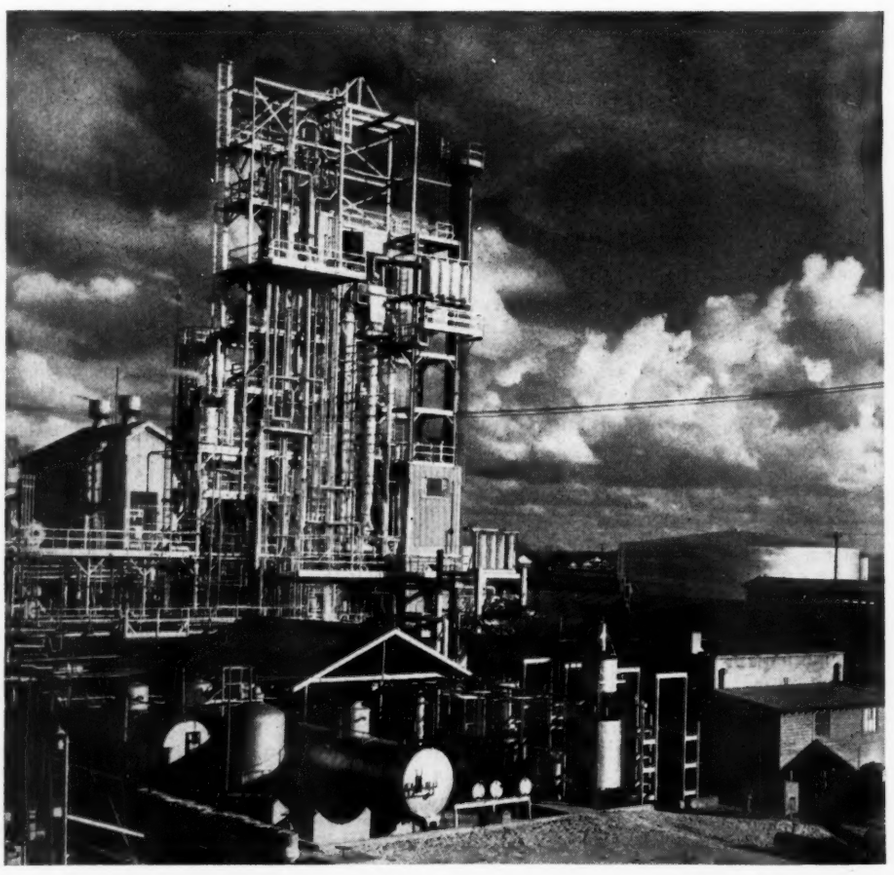
Notice that natural gas first is oxidized to produce a mixture of hydrogen and carbon monoxide—the chief ingredients of water gas. But water gas made by present day methods from mined coal costs 25 to 30 cents per thousand cubic feet, against 5 to 10 cents a thousand for natural gas at the well head. By improving the water gas process, it is believed that it can be produced for somewhere around 20 cents a thousand, and gasoline could be made from it at 9 or 10 cents a gallon at the refinery, against 6 to 6½ cents a gallon for gasoline from natural gas.

These prices are based on coal mined underground or by strip methods currently in use, which makes coal worth about $3 per ton. Though coal mining efficiency has risen from three tons per man-day in 1900 to 5.1 tons today, it is believed through more mechanization, pulverization and handling by suction methods, production might be stepped up to as much as 100 tons a man-day. Coal for oil-making need not be clean. There is no need to sort or grade it. The presence of sulphur or slate is not important, and the coal need not be of the best quality. Subbituminous coal and lignite that is uneconomical to mine for conventional uses can be used successfully for gas and oil making. The chief element of cost is in bulk handling of the tonnage of coal necessary to a commercial oil-making operation. Natural gas presents no such problem, and therefore costs about a third as much as an equivalent amount of coal.

One major development in coal gasification now is being studied, and if successful it may revolutionize the entire coal, gas and oil industries. This is underground coal gasification, in which coal is burned in place, and the gas is collected above ground. The Russians have been experimenting with this system of gas-making since the early 1930's, but there is little information on the work they have done. Last January 21, the Alabama Power Company set fire to one of its coal seams, and now are exploring the possibilities of underground gasification.

A huge U was dug in the coal seam and the fire was started by dropping an incendiary bomb into the tunnel at the base of the U. Controlled air is forced in at one extreme, flowed by the fire and gas taken out at the other arm of the U. If it becomes possible to flow steam and oxygen by the underground fire, it may be possible to make water gas in quantity without ever handling the coal. It will be some months before such possibilities have been explored, but the latest Russian Five-Year plan calls for the production of 33 billion feet of gas from underground fires by 1950. Any reasonable degree of success in this country would make possible a much cheaper gas than with coal at $3 a ton at the mine head.

(*Continued on page 148*)



Pilot plant *at Standard Oil's Baton Rouge, La., refinery which makes 150 gallons of synthetic oil a day from natural gas.*

Oil for the Homes of America

Future Product Availability May Affect Burner Requirements

by
H. M. Hancock
Dr. A. B. Hersberger
E. T. Knight

This article consists of excerpts from a paper prepared by officials of the Atlantic Refining Company, Philadelphia, and presented at the Engineering Session of the Atlantic City Convention, March 25. Because of space requirements it has been necessary to cut the length of the paper, but an attempt has been made to cover all points. The authors pointed out that it was not their desire to lull the industry into a feeling of complacency, or to arouse a feeling of impending doom, but to indicate the problems so they could be attacked by both the oil and oilburner industries.

ON THE BASIS of current estimates, we expect that by 1955 approximately 6,200,000 domestic oil burners will use nearly 250,000,000 barrels of distillate petroleum oils. During 1946 there were approximately 2,940,000 burners in use which consumed 120,000,000 barrels. We also expect that, during 1955, 740,000 commercial burners will burn 90,000,000 barrels of petroleum fuel for heating purposes only, by far the major portion of this fuel being residual. (During 1946 the number of comparable burners in operation was 384,000 and the consumption of fuel approximated 62,000,000 barrels.)

In terms of production and sales of oil burners, this forecast, if realized, means that the oil burner industry will have to produce, annually, an average of 420,000 domestic heating units and 40,000 units for commercial heating purposes only. By 1955, 60% of the domestic burners in operation will have been manufactured since 1946.

The oil industry is vitally interested in the quantity and quality of fuel that will be required to meet the demand which will be created by this very rapid increase in the use of oil burners. As far as commercial heating units are concerned, we foresee no problem in supplying anticipated demand for heavy fuel, provided our prognostications regarding crude oil avails materialize.

However, a serious problem may develop in supplying distillate fuel oil for domestic heating units in the required quantities and of the necessary quality.

In estimating the supply of and demand for domestic heating fuel, the oil industry must consider the requirements for other petroleum products such as gasoline, kerosene and diesel fuel. Volumetrically, gasoline is, by far, the most important of these materials and thus, to a large extent, it determines the processes selected for refining crude oil.

The projection of the future demands for heating oils for American homes employed the basic trends presented in Chart 1. Summarily those trends indicate that during the coming nine years:

1. The United States population will increase at an annual average rate of 1%.
2. The dwelling units will increase at a rate approximating 1.9% annually.
3. Passenger cars in operation will increase 5.4% annually.
4. Oil burners used for the heating of homes will increase at an average annual rate of 8.8% and number 6,200,000 units in 1955.

From the foregoing trends it becomes obvious that the quantity of material required for the heating of homes will become increasingly important during the next nine years. Charts 2 and 4 present our forecasts of the pertinent statistical data of interest to the oil burner industry.

If the forecasts of production and installation of burners indicated are realized, there will be a marked change in the proportion of products to be produced from the middle cut of crude oil refined.

The volumes of light petroleum fuels that are forecasted to be required during the next nine years are presented in Chart 3, and the relationships of specific product demands to the total requirements for the middle cut from crude are indicated by Table I.

The foregoing data indicate the growing importance of diesel fuels. The kerosene and range oil demands, although indicated to become relatively less impor-

Table I—Distribution of Domestic Consumption

	1937	*1941*	*1946*	*1950*	*1955*
Heating Oil	42.3%	44.5%	36.0%	40.4%	40.7%
Kerosene, Range Oil, etc.	38.6	35.7	35.0	29.7	26.5
Diesel Oil	12.8	11.3	19.2	21.4	24.5
Miscellaneous	6.3	8.5	9.8	8.5	8.3

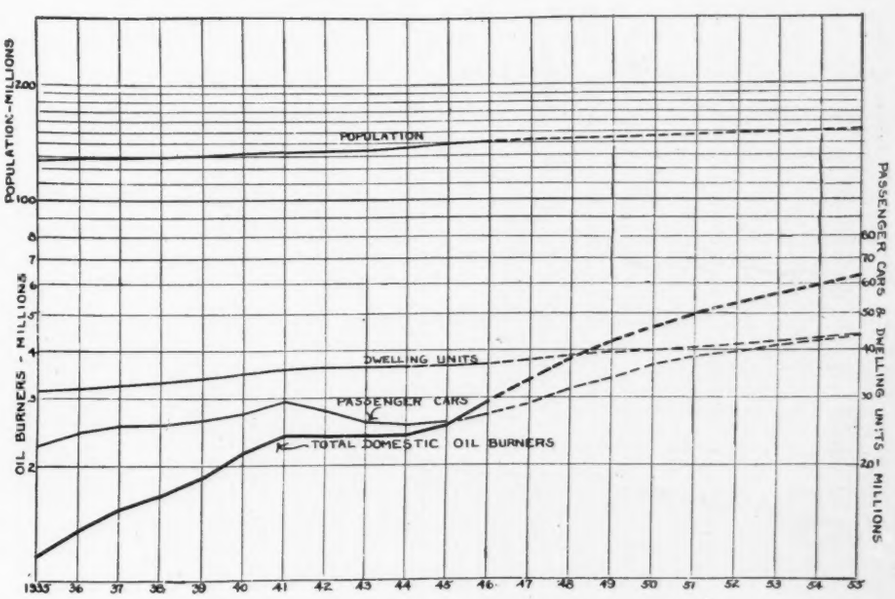

POPULATION - MILLIONS
OIL BURNERS - MILLIONS
PASSENGER CARS & DWELLING UNITS - MILLIONS
POPULATION
DWELLING UNITS
PASSENGER CARS
TOTAL DOMESTIC OIL BURNERS
1935 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

Chart 1—*Basic trends, historical and expected.*

tant by 1955, will increase volumetrically.

The rapid expansion in the use of oil for heating homes prior to World War II was accomplished essentially in burners designed to handle straight run fuels conforming to the then recognized volatility and distillation characteristics. The race for high octane motor fuel just prior to the War and the demand for high octane aviation gasoline during the War brought about a major change in processing methods within the oil industry, the advent of catalytic cracking. This change has had an effect upon the composition of distillate fuel oils, namely, decreasing the volume of straight run stocks for home heating and substituting part a catalytically cracked oil.

As soon as it become evident to the oil heating industry that future avails of burning oils would contain catalytically cracked stocks, experts appeared overnight and the general impression was created that such oils constituted a "wolf in sheep's clothing." There are, of course, all degrees of catalytic cracking giving a wide variety of oils that vary in quality depending on operating conditions, charge stocks, etc. It is needless to say that some of the startling changes predicted with regard to the resultant quality of fuel oil for home heating have not come to pass to the extent feared.

However, an undeniable change in heating oil composition and properties has taken place, and future problems indicated by this trend should not be ignored.

Unfortunately, the petroleum industry as a whole has no provision for making periodic surveys which indicate the gradual change in sigificant characteristics of fuel oil as it does for gosoline. Perhaps we should provide a plan for this service to both refiners and oil burner manufacturers. In the absence of authoritative data, quality changes discussed here are generalizations which cannot be applied literally to any one section of the country or to any single refiner.

The distillate fuel oils (especially No. 2) have increased gradually in specific gravity equivalent to a decrease in A.P.I. gravity of one to four degrees; while distillation characteristics have shown little change except for a decreased degree of fluctuation between extremes. These facts are illustrated by Table II. The transition can be expressed as representing a lowering of the Burning Index[1] of the fuels by approximately 5. (Burning Index is a measure of burning quality based on the relationship between gravity and 50% distillation temperature characteristics of a furnace oil. On this scale a 45 A.P.I. gravity, volatile, Pennsylvania crude quality, straight run fuel oil has a Burning Index near 100, while a 20 A.P.I. gravity, highly cracked, naphthenic distillate of allowable distillation characteristics, possesses a Burning Index near 0.) This transition in quality is a reflection of the inclusion of catalytically cracked stocks and is caused by the fact that these oils possess lower A.P.I. gravities than straight run oils and are not as well suited as straight run distillates to burning in existing equipment.

The correlation of Burning Index with the actual combustion of oils in various burners has indicated that for the average burner in use today, oils with burning indices of less than 65 might not assure eminently satisfactory performance. Pot type and some sensitive rotary burners

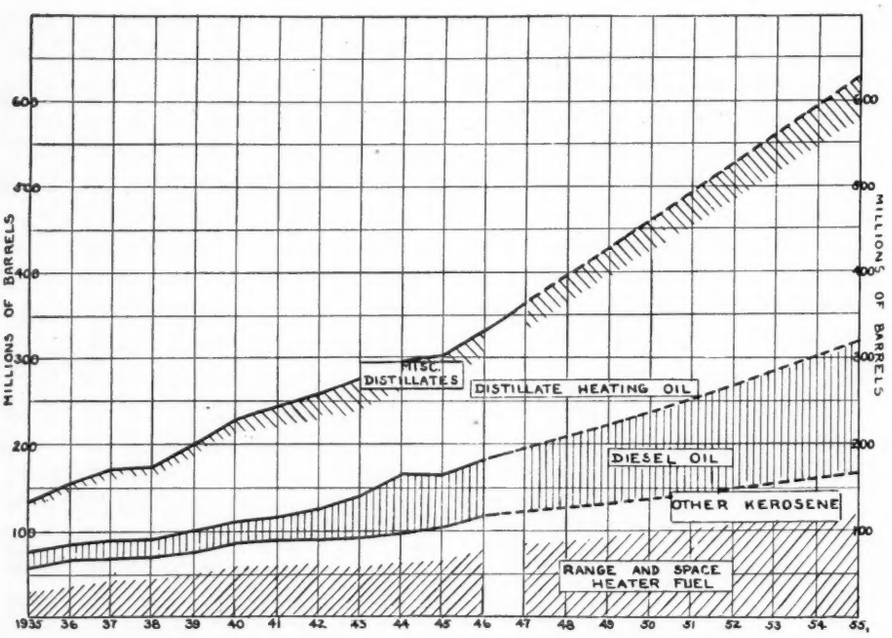

MILLIONS OF BARRELS
MISC. DISTILLATES
DISTILLATE HEATING OIL
DIESEL OIL
OTHER KEROSENE
RANGE AND SPACE HEATER FUEL
1935 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

Chart 2—*Consumption of kerosene and distillate by specific classes of use.*

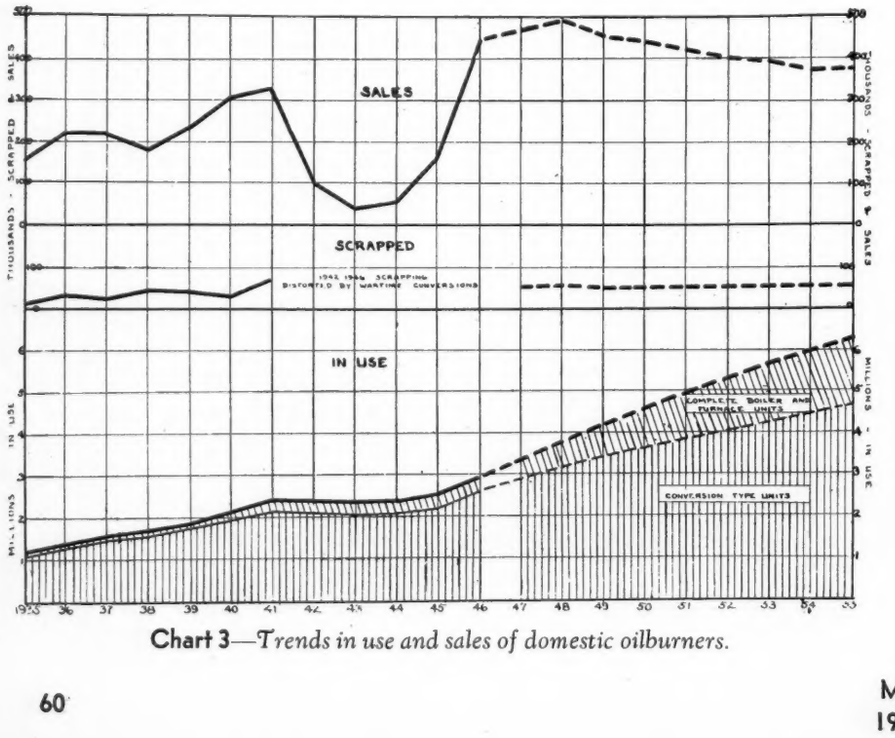


Chart 3—*Trends in use and sales of domestic oilburners.*

[1]"A Burning Index for Distillate Fuels," J. C. Reid and A. B. Hersberger, Fuel Oil and Oil Heat, January 1947.

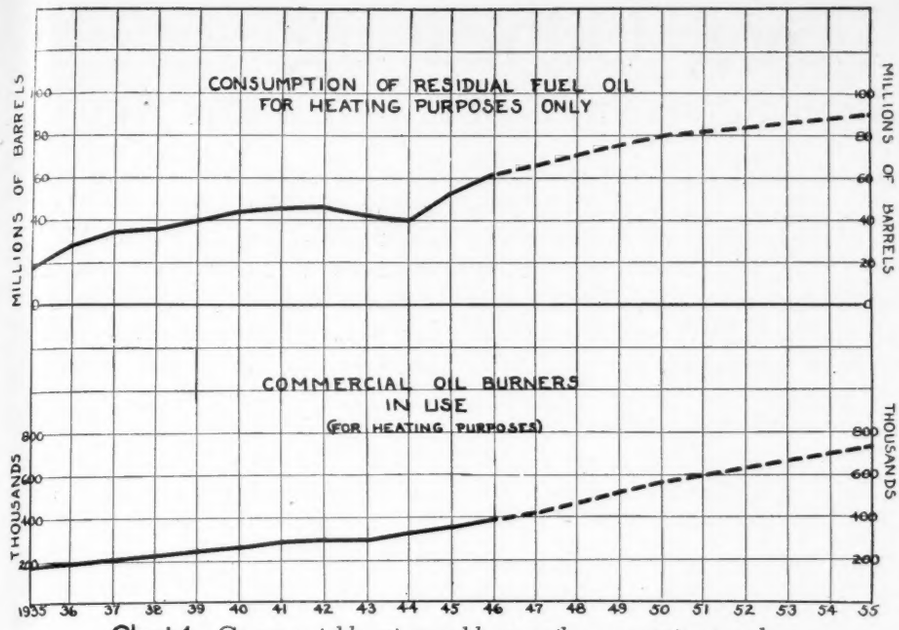

CONSUMPTION OF RESIDUAL FUEL OIL
FOR HEATING PURPOSES ONLY
MILLIONS OF BARRELS
COMMERCIAL OIL BURNERS
IN USE
(FOR HEATING PURPOSES)
THOUSANDS
1935 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

Chart 4—*Commercial heating and heavy oil consumption trends*

require oils of even higher burning indices. Generally speaking, the petroleum industry is currently supplying oils of required quality for burners in service.

Let us now look at what the future holds in store. It must not be assumed that because postwar furnace oil has not changed too significantly, future quality will remain unchanged. At the meeting of the American Petroleum Institute in November, 1945 it was predicted[2] that postwar No. 2 fuel oil would possess an A.P.I. gravity of 28-30°, a 10% distillation temperature of 460° F. and a 90% distillation temperature of 585° F. Such oils will have burning indices of the order of 45 which in our opinion cannot be handled satisfactorily by many of the existing burners.

In any visualization of the future trend in heating oil quality the quantity picture previously presented cannot be overlooked. Table III shows a greatly increased demand (% of crude run) for diesel fuel, a nearly constant demand for kerosene and range oil and an increased demand for home heating oils. The diesel fuel yield from crude oil is expected to rise from 4.1% in 1946 to 6.8% in 1955. The kerosene and range oil yield from crude oil is expected to remain nearly constant at about 7.5% over this same period. The yield of heating oils is expected to rise from 7.4% to 11.3% during this time. It must be remembered that these figures represent rather large volume increases and that the data are based on large increases in crude run to stills. If it is assumed that the catalytic cracking capacity increases with crude running capacity, the evidence supporting an accelerated swing to lower burning index oils for home heating is not too strong. This, however, does not tell the whole story.

Fuels for pot type space heaters and diesel engines are expected to have first call on the high burning index oils. The more paraffinic stocks will probably be diverted to these choice fuels because of price differentials and thus limit the amounts of these materials available for home heating oils.

It also must be remembered that the large increase in the number of domestic burners in use can be expected to occur predominately in the East and Midwest. The projected forecasts for 1950 and 1955 are on a national basis. The picture in the two areas mentioned above probably will not conform to the national average. Important differences will exist in larger

(*Continued on page 146*)

Table II—No. 2 Fuel Oil—1940 Quality Compared with 1946 Quality

EASTERN UNITED STATES

	1940			1946		
	Avg.	*Min.*	*Max.*	*Avg.*	*Min.*	*Max.*
Gravity (°A.P.I.)	36.2	32.2	39.3	33.8	31.2	35.8
Sulphur (%)	0.12	0.06	0.20	0.30	0.07	0.50
Flash, P.M. (°F)	162	154	172	156	142	168
Pour (°F)	—20	—60	—5	+10	—5	+20
Distillation						
10% Recovered @ (°F)	418	406	432	421	406	429
50% " @ (°F)	494	480	508	492	481	501
90% " @ (°F)	581	560	602	569	553	581
End Point (°F)	616	590	639	622	612	627
Burning Index	77	63	86	71	60	78

MID-WESTERN UNITED STATES

	1940			1946		
	Avg.	*Min.*	*Max.*	*Avg.*	*Min.*	*Max.*
Gravity (°A.P.I.)	36.7	30.5	43.0	36.2	29.6	41.9
Sulphur (%)	—	—	—	0.35	0.07	0.64
Flash, P.M. (°F)	158	110	170	144	131	167
Pour (°F)	—	—	—	—10	—40	+5
Distillation						
10% Recovered @ (°F)	421	362	497	406	392	420
50% " @ (°F)	477	432	576	479	439	510
90% " @ (°F)	553	497	656	557	474	596
End Point (°F)	634	564	710	611	507	654
Burning Index	81	65	99	79	60	96

Table III—Yield of Products from Crude Oil
Per Cent of Runs to Stills

	1940	*1941*	*1946*	*1950*	*1955*
Gasoline	43.1	44.2	39.6	39.9	41.0
Kerosene	2.4	2.2	2.8	2.1	2.1
Range Oil & #1 Fuel	4.5	4.2	4.9	5.1	5.3
Sub-Total	6.9	6.4	7.7	7.2	7.4
Diesel Fuel	2.0	2.0	4.1	5.1	6.8
Heating Distillate	8.3	7.7	7.4	9.7	11.3
Miscellaneous Distillate	2.7	2.5	3.5	1.7	2.0
Residual Fuel	24.4	24.3	24.9	22.4	20.2
Other Inc. Refinery Loss	12.6	12.9	12.8	14.0	11.3
Total	100.0	100.0	100.0	100.0	100.0

[2]"Peacetime Fuel Oils from War Equipment," Pew, Hill, and Bates, Proceedings A.P.I., Section III, November 12-15, 1945.

[3]"Characteristic Properties of Catalytic Fuel Oils and Their Effect on Oil Burner Performance," W. A. Sullivan, Engineering Section, Oil Heat Institute Convention, Philadelphia, April 26, 1946.

First Love, Oilheating

Enthusiasm in Oregon is Similar to East's 10-15 Years Ago

by
Robert Gray

SINCE THE WAR ENDED an unusual amount of attention within the oilheating industry has been focused on the Pacific Northwest, primarily Oregon and Washington. There were reasons for this, fairly well known by now, but generally summed up in the fact that a large number of families wanted and needed oilheating for their homes all of a sudden.

This story is concerned with the Oregon half of the market, and next month's issue will have a story on Washington. In over-all impressions the states have similar situations in oilheating, but there is diversity in detail.

To a visitor from another part of the country, who shows interest in oilheating, Northwestern hospitality is all that you've heard about, and if he gets any sleep it has to be at odd hours, sandwiched between company visits, mountaintop or seashore jaunts and basement soirees that terminate abruptly just before dawn. He learns what they mean by a "technical knockout."

It is probably safe to say that a larger percentage of families and business houses want oilheating in Oregon than anywhere else in the country, unless it is Washington. One incident will explain how this goes. Seated at lunch in the Benton Hotel in Corvallis, an attractive small city down state, Harry Puscas of Allen Oil Co., said, "Sure, I can show you a sawdust burner right down in the basement here; we have an order to replace it with an oilburner, just like we have orders from the other two hotels in town, and just like we have orders from half of the business buildings along the main street . . . if we can ever get any burners to install . . . yes, sawdust is going out fast."

Sawdust is a large part of the Northwest story, not only because two-thirds of the houses have been heated with it, or with wood slabs or hogged fuel, and all of these wood by-products are becoming scarce as more profitable uses are found for them, but just as important, people are tired of the work attendant upon burning them, the same as they are tired of shoveling coal and ashes in other parts of the country.

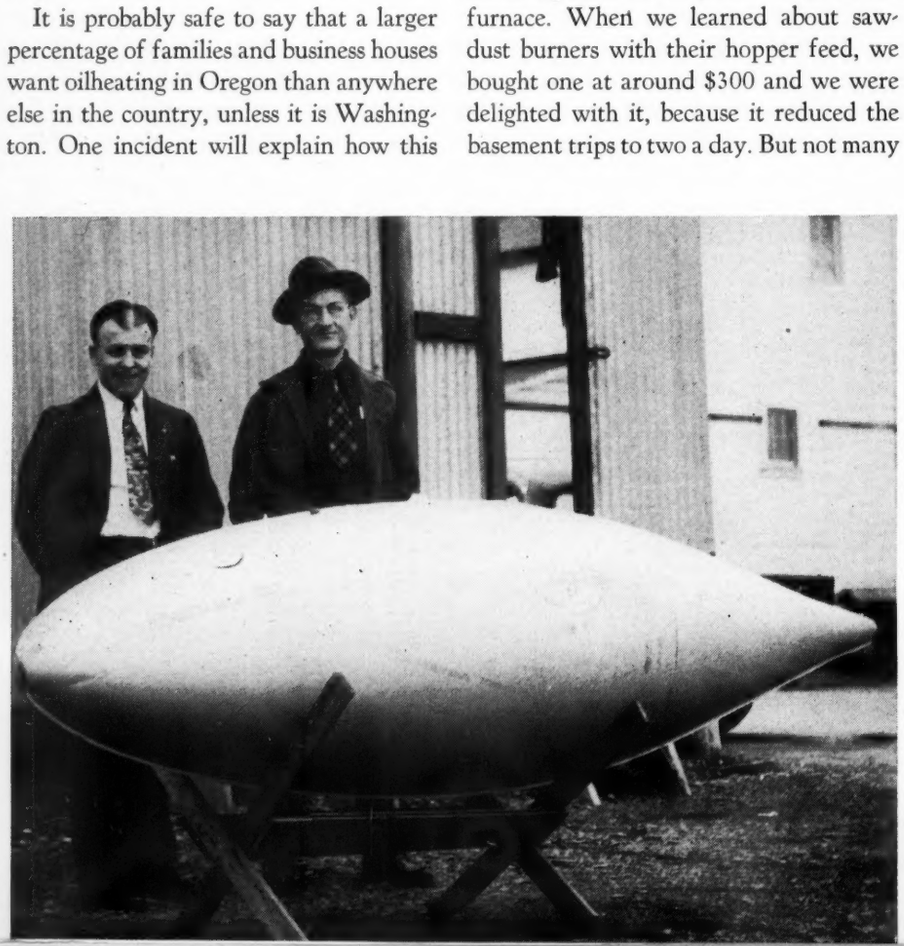
Paul Harbaugh, general manager of Liberty Fuel & Ice Co., Portland's largest fueloil distributor, had this explanation, "I can well remember when our house was heated with wood slabs, which meant that six or eight times a day we had to fill the furnace. When we learned about sawdust burners with their hopper feed, we bought one at around $300 and we were delighted with it, because it reduced the basement trips to two a day. But not many years had passed until we were mighty tired of filling that hopper, for it took a lot of motion, because the sawdust bin was so large that we had a long walk with each load. So we got oilheating, and don't have to go to the basement all day. People just want things to be more convenient, year after year, in everything."

As was pointed out in two articles last year in FUELOIL & OIL HEAT on the Northwest situation, that market differs from the rest of the country in one important particular. Only a small part of the oilburners are sold by companies selling fueloil, and vice versa. This situation will change with time, and it appears that within five years the degree of integration will approach the rest of the country, or around two-thirds of each product being sold by companies that handle both.

The principal oilheating trade association in Oregon, Oregon Fuel Merchants Assn., is predominantly a fuel group, as will be understood by the fact that considerable sections of its membership sell coal and wood.

Oil men are concerned about oilburner dealers, either pro or con. The best ones have worked closely, swapping leads, helping each other get business, working in the public interest, and yet the oil men feel that some oilburner dealers have been destructive factors in the market, especially those that have gone into the oil business. One prominent and successful oil man, in complaining of such burner dealers, says that they do not support proper fueloil margins. He pointed out that because these firms make a profit on burners they can get along with lower oil margins, and reflect this by accepting lower margins from suppliers, or by cutting retail fueloil prices, or by giving free burner service to oil accounts.

There is obviously some truth in this,



Harry Puscas *and* **James McNesby** *of Allen Oil Co., Corvallis, Ore., with an aircraft drop tank that they use in considerable numbers for outside storage of stove oil. Originally made to carry extra gasoline on aircraft, and then dropped when empty, thousands have been sold to oil companies.*

but it is interesting to recall that in other sections of the country it was usually the oilburner man who accused the oil man of wrecking the burner market by selling burners at cost to get the oil contract.

But however soon the integration of oil and burners comes to pass in Oregon, and it is eventually inescapable for economic reasons, certainly today neither group is suffering for lack of this integration, nor for much of any other reason. It is quite clear that for another four or five years oilheating growth in the state will be faster than in the country as a whole, which means that during the transition period all industry elements can reasonably expect to profit.

To a visitor making a study of Oregon oilheating in the brief period of one week, two impressions are strong . . . first, the type of individuals engaged in the industry is exceptionally high—they're the "best people" crowd, the old-school-tie crowd that finds time to enjoy living . . . and second, because the market is so flourishing, they have not had to refine their operations to the degree achieved in the more highly competitive sections of the country.

For example, there is evidence that few companies look upon their businesses as adjuncts to better living for the people they serve, but rather most of them are strongly commodity conscious and think of themselves as selling simply oilburners as an appliance or piece of merchandise, or they think of their business as selling fueloil as so much liquid running through a hose. This will change, is starting to change now, and in contrast to the experience of the East, the Northwest will apparently go through this change period, this refinement and integration period of the next five years, supported at every step with a flush market and adequate profits.

To get the feel of a market like Oregon in the few days at hand, it seemed best to study the activities of a half dozen dealers, or actually seven dealers, large and small, both in the city of Portland and out in the state. They were not selected to be exactly representative of the region, but were primarily among those persons who made themselves known at the West Coast OHI meeting in Portland.

The first company visited was the Multnomah Fuel Co., pioneer in supplying things to keep people warm since 1900,

Harry Norquist, *president of Campbell-Norquist, Portland, and two of eight Ray burners he installed in a malting plant. Sulphur fumes in the oil gases give the malt superior quality.*

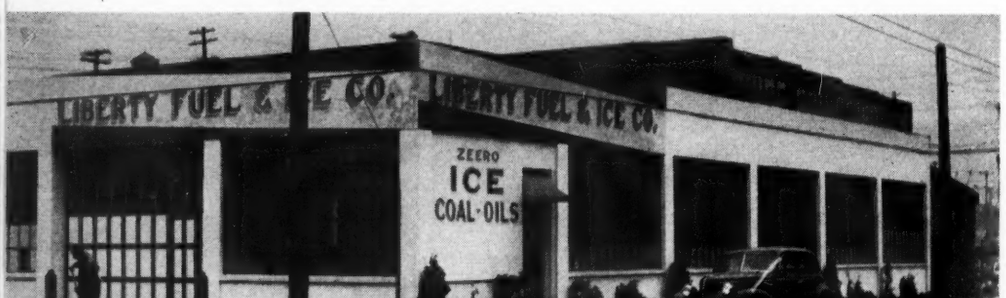
Below: Multnomah Fuel Company's modern showroom and office, and its three principal officers: **C. A. Marsh,** *president,* **James Yeomans,** *secretary and sales manager, and* **T. H. Gawley,** *vice-president.*

In the truck fleet picture are three of the company's liquefied petroleum gas delivery units in addition to fueloil trucks.

when the company was organized to market sawdust and wood. It operated wood camps in the timber country to cut cordwood after the loggers had taken what they wanted for lumber. Then, around 1910 a coal business was started, but by now sawdust, wood and coal sales have all been abandoned.

Multnomah started selling fueloil in 1929, the first independent distributor in Oregon, and today operates eight trucks on light fuels (furnace and stove oils) and one on residual deliveries. Its ratio of furnace oil to stove oil is about five to one, which would indicate that its volume of furnace oil, PS-200, is among the top in the market. The company does not sell oilburners, but works closely with several burner dealers. It does have the only large bulk storage for fueloil inside the Portland city limits, for an ordinance prohibiting this was passed after this company's storage tanks were installed, all underground. The tanks are filled by gravity from rail cars that shuttle to Tidewater Associated's large marine terminal. Several small Tidewater fueloil dealers fill their trucks at Multnomah's racks, handled on the basis of a through-put charge to Tidewater, rather than a typical peddler business of the Eastern variety.

Carl Belz *operates Belz Fuel Service at Camas, works in and around this town of 5,500 population, has 1,400 oil customers.*



Lacking storage tanks of any important capacity of their own, the other Portland fueloil distributors load at the major companies' tidewater terminals grouped outside the city on the Willamette River. And because these terminals constitute almost the total storage for the state, they appear enormous in relation to the area's demand . . . the big 55,000 barrel tanks stretch out for miles.

Multnomah, as a company, became known to other parts of the country when Jim Yeomans, the company's secretary and sales manager, was elected vice-chairman for the West of OHI's Distribution Division in 1945, and became active at Eastern meetings. President of the company is C. A. Marsh and vice-president is T. H. Gawley.

Most recent of Multnomah's pioneering jobs has been a vigorous activity in marketing liquefied petroleum gas and the equipment to burn it. This is a Shell product and is distributed over 16 counties. Although first to start this activity, there

Charles Holloway, Jr., *sales manager, and* **Paul Harbaugh,** *general manager, of Liberty Fuel & Ice Co., Oregon's largest fueloil distributor, showing also the company's new office building and truck fleet.*

Al Loucks, *president of Home Fuel Oil Co., down at Salem, Ore., (at right) has been active in Northwest association affairs, sells two million gallons, but steers shy of oilburner sales. His visitor is* **W. C. Clark,** *district representative for Tidewater Oil, and the driver by the truck is* **Paul West.**

are now five competitors in that area. Others have started in this business and given it up, largely, according to Yeomans, for lack of enough capital. He points out that some folks mistakenly believe that all they need is enough to buy a pressure truck, some storage tanks and have a few months rent in the bank. Actually the equipment cost is the smallest part of the capital requirement. Months of sales promotion, with salesmen's compensation, expensive advertising, substantial investment in stocks of stoves, heaters and furnaces designed for LPG, pile up the capital needs to some $50,000 as the bare minimum for an LPG department. The initial capital must last until enough customers are on the line to assure daily operating profits.

The company has 450 LPG heating customers that consumed last year 750,000 gallons. All in rural areas, many are homes but more are restaurants, auto courts and other business enterprises. A five-room house with an average family needs about 1,600 gallons a year to include cooking, water heating and house heating, and Multnomah charges either 16¢ or 17¢ a gallon, depending upon location. The average house heating load is around 40,000 Btu's, so most owners use either space heaters or floor furnaces . . . only about 50 of the 450 heating jobs have conventional central heating plants in the basement.

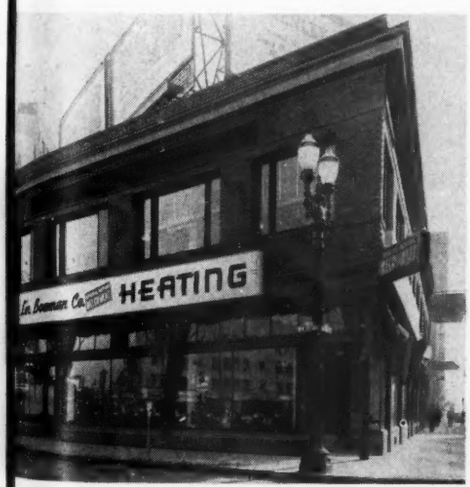
The company also supplies some industrial demand for LPG, particularly magnesium furnaces, where this fuel makes possible more exact control than was formerly had with oil.

LPG customers do not own their tanks when dealing with Multnomah; they rent them from the company for $125 and no time limit—in other words, that rental covers the full time that they buy fuel from the company, be it ten days or ten years. This price covers a 250 gallon tank, which is installed above ground with a 24 foot safety clearance from buildings in all directions.

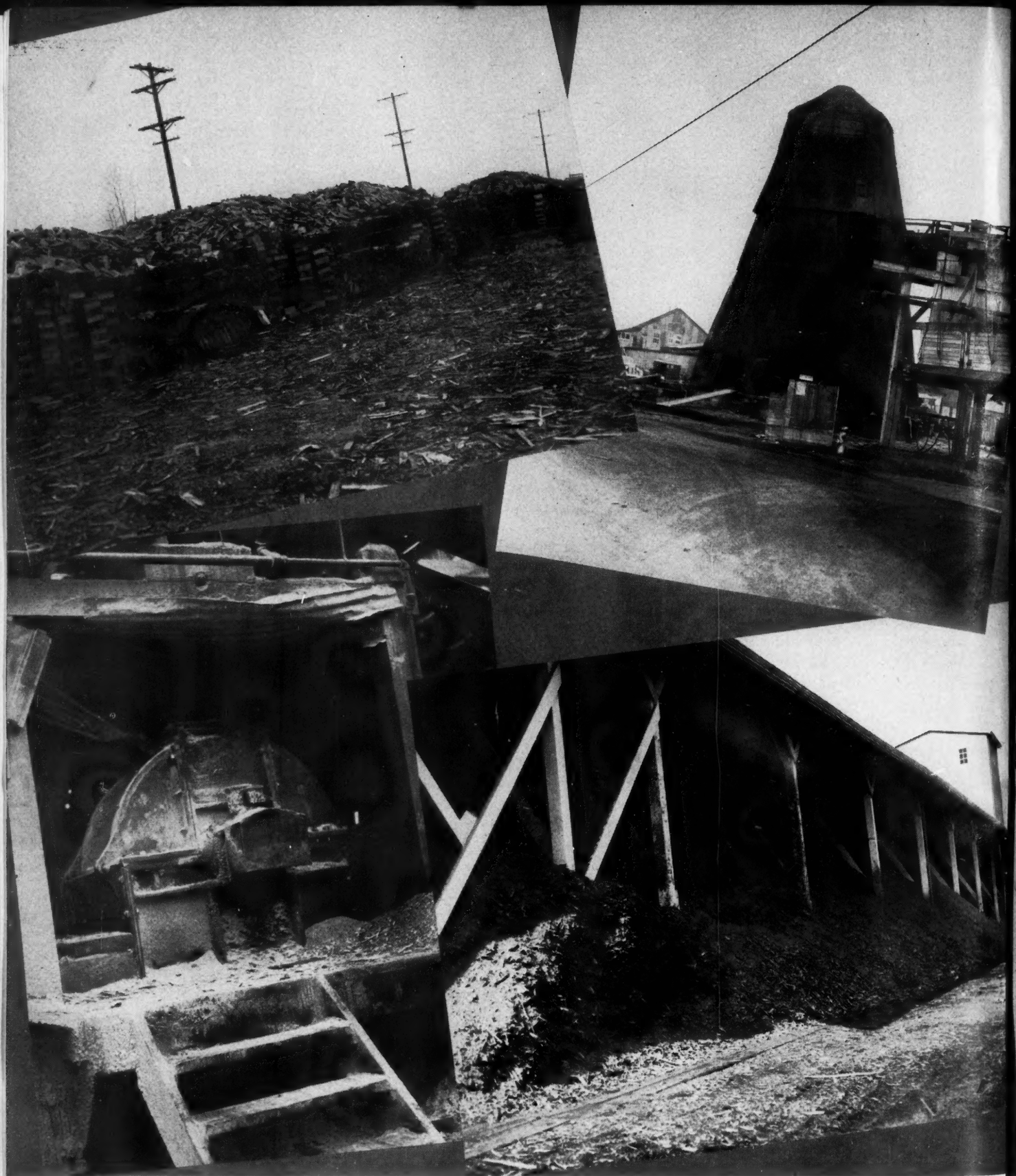
A lot of LPG is sold for use in large trucks instead of gasoline. Trucks can be converted to handle it for about $350, and the actual horsepower is raised about 25%, while motor maintenance is reduced 75%.

Whether or not LPG is a practical addition to a fueloil distributors business depends on a lot of factors, but there is no question about the meteoric growth of the product. Nationally, in 1922 was sold 223,000 gallons; by 1930 it had climbed to 18 million; in 1940 it was 313 million, and in 1946 the volume was nearly one and one-half billion gallons.

(Continued on page 112)



Lin Bowman Co., *Delco burner outlet for Oregon, has an imposing downtown showroom, and is building fueloil gallonage principally through burner installations. Individuals who make up the company, shown at right are: standing, Lin Bowman, president, L. A. Benson, office manager, Carl Lenchitsky, sales manager, Bob Dwiggens, fuel department manager, and stooping, Harold Vaughn, service department manager, and Al O'Brien, installation manager.*



Wood and Sawdust Fuel

MANY THOUSANDS OF Pacific Northwest homes and other buildings are heated with slab wood, sawdust or hogged fuel. Oil is displacing this about as fast as the dealers can get around to handle the jobs, particularly in most parts of Oregon.

Upper Left: Typical wood piles of a fuel dealer. This slab wood is burned in furnaces as well as stoves, and naturally requires frequent stoking.

Upper Right: Because saw mill refuse cannot be allowed to pile up in seasons when there is little demand, it is destroyed in this typical refuse burner.

Lower Left: This sawmill hog makes sawdust and small chips out of lumber waste at Corvallis Lumber Co., Corvallis, Oregon.

Lower Right: Storage of hogged fuel at Oregon State College, Corvallis.

Burning Wood and Sawdust

WOOD WASTE PRODUCTS are burned in large heating and industrial boilers as well as in homes and commercial buildings.

Upper Left: In this 1,500 horsepower boiler at Oregon State College, hogged fuel, bought in large quantities, costs only about 30% as much as oil. Oilburners are installed for standby, if the wood fuel supply is interrupted.

Upper Right: Hogged fuel is shoveled into this conveyor 24 hours a day, carried and fed into the college boilers.

Lower Left: Sawdust hopper in a home basement is inspected by Harry Puscas of Allen Oil, Corvallis. Filled twice a day, it provides automatic heating, at a cost about 70% of oilheating.

Lower Right: A larger automatic sawdust hopper serves this hotel heating boiler.

Control Layouts for Unit Heaters

Details of Three Control Systems Tried in One Building

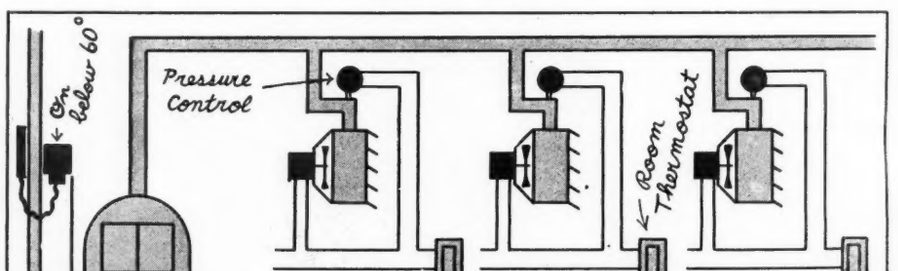
by

J. W. Schulz

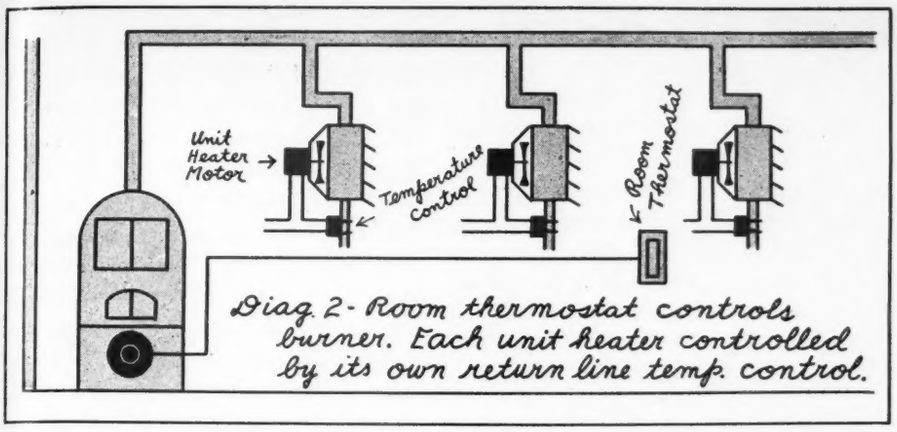
UNIT HEATERS ARE USED in many commercial and industrial buildings, and where there is a unit heater in a heating plant supposed to be automatic, there is a control problem to be solved. By one method or another, the motor of the unit heater must be started and stopped automatically. Only a good control arrangement can provide heating which is comfortable and genuinely efficient. Oilburners have been called unsatisfactory, and blamed for discomfort and high oil bills, simply because the unit heaters in the systems fired by the burners were not starting and stopping properly. The costs of heating a large industrial plant by heavy oil were declared oversize a few years ago; soft coal might be cheaper, said the owner. During January, 2,800 gallons of oil were used per day to heat one of the buildings. Making better use of the controls already installed for controlling the more than one hundred unit heaters in this building netted an oil savings of 470 gallons per day in January. Additional fuel oil was saved through applying other methods to boost efficiencies, and the plant still burns oil today.

Three years ago a heating expert received an "oilburner complaint" from a building which included stores and apartments, using about 8,000 gallons of oil a year. In eight years, he found, the unit heater in a furniture store had not operated once. A room thermostat and a reverse-acting steam pressure control set at one pound, its lowest setting, were in series with the motor of the unit heater. The pressure control was intended to prevent the unit heater from blowing cold air. With the thermostat "on" and more than one pound steam pressure in the system, the unit heater motor could run. But it never did run, because the oilburner never raised one pound pressure. That much steam pressure was not raised during a test which operated the oilburner continuously for four hours. By some, the trouble might be termed under-firing. Yet, this one-pipe steam plant heated all the radiators properly on coldest mornings with the boiler pressure lower than half a pound, and even on mildly cold days the distribution of the steam to the radiators was satisfactory. Aside from that, requiring that the boiler raise even one-eighth pound steam pressure a few minutes after each start of the oilburner, in order to operate a pressure-controlled unit heater, would be indicating a lack of knowledge of the operation of typical oilfired steam plants. The only trouble in this system lay in the controls. The remedy consisted of removing the steam pressure control and installing instead a surface temperature control which permitted operation when the steam heating element of the unit heater was warm. That ended the store owner's complaints about the heat.

In other instances also, trouble with unit heaters has been ended by removing reverse-acting steam pressure controls, and installing reverse-acting temperature controls instead. Different ideas have been thought up and tested. On some installations, immersion-type temperature controls, of the type used in hot water heating plants, were installed in suitably large pipe tees in the return lines of the unit heaters. Elsewhere, surface controls were used, also of the type used in hot water heating systems. The surface controls can be mounted easily and quickly on the heater return lines. Also, and in an attempt to gain exceptional results, surface temperature controls were mounted on the air-output side of the steam heating elements of the unit heaters, where with the fans idle they are affected by the temperature of the steam heating elements, but with the fans running they are affected mainly by the temperature of air leaving the units. This provides a control which can be adjusted closely to open its circuit at a certain minimum delivered-air temperature. It has worked out well, for example, to adjust the control to stop the fan motor when the temperature of the air leaving the heater drops below 90°. Such operation has cut the fuel consumption of certain systems by causing the unit heaters to develop a natural high vacuum in the systems before their motors stopped. The temperature of the heaters, piping and boilers was reduced considerably at the end of each oilburner "on" period by this high vacuum, resulting in more heat being delivered by the heaters per gallon of oil burned, reducing the standby loss following each oilburner "on" period, and increasing the overall efficiency of the heating plants. A considerable reduction in the temperature of the boiler rooms was gained on several installations. Balancing the relative amount of heat given by each heater in a system is easy, even where no room thermostats are used for the unit heaters. To reduce the amount of heat given by a heater, the temperature control is set higher, and the result is that the heater will start later and stop earlier than it did before, thus will give less heat compared to the others in the system.



Diag. 1- Outside thermostat set 60° starts oil burner. Each unit heater controlled by steam pressure control and thermostat



Diag. 2- Room thermostat controls burner. Each unit heater controlled by its own return line temp. control.

Ordinarily, however, spending time on installing and adjusting special controls for unit heaters is unnecessary. Standard controls, easily and quickly installed and adjusted, accomplish the desired results on most installations. The important thing is to have detailed knowledge of the control arrangements usually needed. Used properly, for example, a reverse-acting steam pressure control serves very well for keeping a heater motor from blowing cold air. An example of such use in a small commercial heating plant will be given later. Also, in certain industrial heating plants where either no steam is turned on the heating mains or the steam is turned on continuously at some certain pressure (say between five and 35 lbs.), it works out well to control each unit heater by a reverse-acting steam pressure control and a room thermostat wired in series.

Accompanying Diags. 1, 2, and 3 show the same installation. This includes a steel heating boiler fired by a horizontal rotary cup burner, nine unit heaters, and a few hundred square feet of cast-iron radiation used to heat the offices, halls, and rest rooms of the building. Each diagram shows but three of the nine unit heaters, because each of the nine was controlled the same way with each of the control arrangements tried. The nine unit heaters are located in the main part of the building, which is used for manufacturing. In effect, they are all in one large room. The standard boiler room controls for a steam plant are not shown in the drawings. These include the oilburner control panel, the low-water cut-out, and the steam pressure control on the boiler which is used as the high limit control for the oilburner.

Diag. 1 shows the controls installed with the burner and the heating plant. Connected to the low voltage circuit of the oilburner panel is an on-off control affected by outside temperature. Temperatures lower than 60° outside cause this to be "on" continuously; temperatures above about 63° cause it to be "off." That is, when the outside temperature is below 60°, the oil burner is started and stopped by the steam pressure control. This keeps about five pounds pressure on the boiler and the entire heating system.

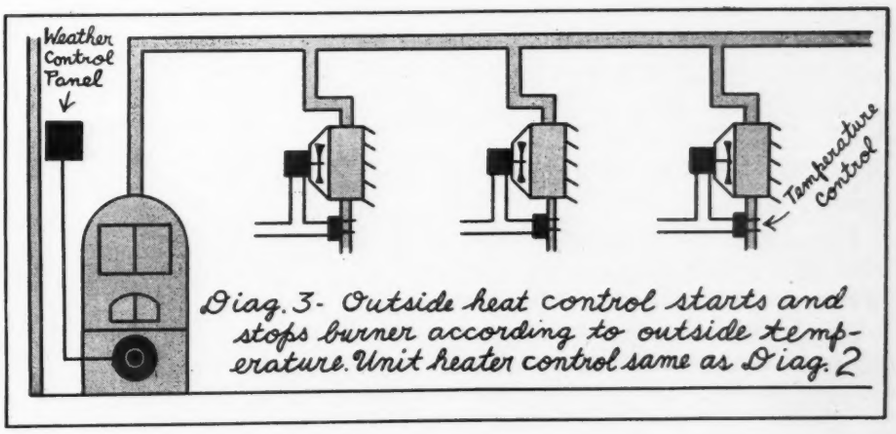
As Diag. 1 shows, in series with the motor of each unit heater is a room thermostat and a steam pressure control. Each thermostat is located near the unit heater it controls, the idea being that if a particular area tends to chill, the unit heater in that area will be started by the room thermostat. The steam pressure control is reverse-acting, of course. Adjusted to go "on" when the steam pressure exceeds two and one-half pounds, this control is intended to keep the unit heater motor idle when there is no steam. For the reduction of heat nights and week-ends in mildly cold weather, the owner can turn off the main switch of the oilburner. As soon as the steam pressure drops, the unit heaters are kept idle by the reverse-acting pressure controls. The way to provide reduced heat for cold winter nights, when turning off the oilburner would cause the building to be too cold, is to lower the setting of the nine room thermostats. When this is done, the steam pressure is still maintained by the burner. An extremely convenient and comfort-inspiring feature of this control layout is that, since steam pressure is maintained continuously when it is colder than 60° outdoors, setting up any room thermostat instantly gives a flood of heat from a nearby unit heater.

Although the controls in Diag. 1 worked precisely as intended and gave no trouble, the owner of the building gave his heat controls considerable thought while he used them for one heating season, then decided certain disadvantages could be overcome.

First, the nine room thermostats in the work-space of the factory did not please him because, he said, of "the complications they got him into with the employees." No thermostat locking devices were used from the start because in cold weather the nine thermostats were set lower nights. The employees could too easily set a thermostat to please themselves. Worse, a room thermostat was affected not only by the unit heater closest to it, but also by the general temperature of the room, especially when no unit heaters were running, and by unit heaters farther away which were in operation. This meant that setting one thermostat a few degrees higher than the others would tend to start the nearest unit heater first when the room chilled on mildly cold days. On very cold days it tended to keep the nearest unit heater in continuous operation while the others stayed idle or nearly so. Employees in the factory soon learned this. From then on, there was a race to set up the different thermostats.

The owner learned also that even with

(Continued on page 142)



Diag. 3- Outside heat control starts and stops burner according to outside temperature. Unit heater control same as Diag. 2

Solving A Control Problem

fueloil & oil heat Short Short Article on Burner Service

THERE'S a certain kind of service call which is the pleasure of the oilburner expert and the despair of the bungler. The owner says that no matter what he does the oilburner won't run. He is speedily verified. There's oil in the tank. The room thermostat is set high enough and the house is cold. The burner switches are turned on. The fuses are okay. The boiler of a steam plant has plenty of water. The burner does not respond to pressing of the safety button on the stack control panel. It should run but it just won't run. Trouble in the controls or wiring is indicated. This situation is the pleasure of the oilburner expert, for he knows what to do about it, and the trouble-shooting job is clean, crisp, and gratifying. But it is the downfall of a bungler because he does not know where to start.

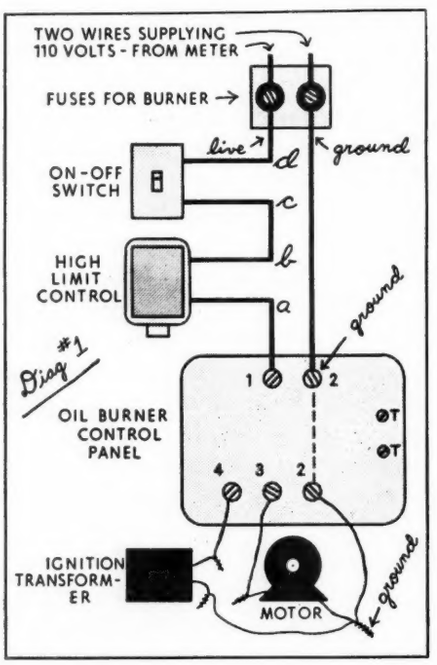
The trouble-shooting expert employed by a fueloil company was called to the new house of an oil customer last March because, the customer said, the house had been without heat for two days and the plumber who had installed the burner had gone home after being unable to get one budge out of the burner motor in a whole afternoon of scurrying around the basement. According to the home owner, the plumber had kept on saying, "That burner is brand new. It's been in use only two months. It should not be giving trouble."

After ascertaining that all the switches and controls were in the on position, the service expert took an ordinary ten-cent pigtail socket from his tool kit, screwed a 50-watt bulb in it, and remarked, "I'll bet dollars to doughnuts the fellow who's been fumbling with this job did not use a current tester."

Glancing over the installation, he saw the typical control layout shown in Diag. #1.

He said, "The first question to be answered is: Does the burner panel receive 110 volts?"

He placed his test lamp in position for the test 1 indicated in Diag. #2. It did not light up. Posts 1 and 2 of the control panel were dead. Next he tested the fuses. Both were all right. Removing the covers of the on-off snap switch at the top of the stairs and the high limit control, he tested points a, b, c, and d in Diag. #1, in search of live 110-volts. He simply touched one wire of the test lamp to a BX cable or steel junction box to place



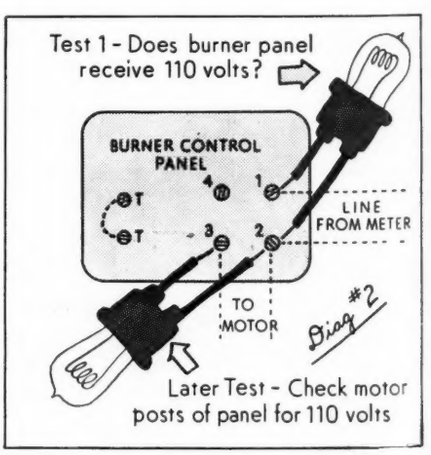
a ground on the wire, and touched the other wire of the test lamp to each of the terminals, one at a time, in the limit control and the snap switch. In Diag. #1, points a and b correspond to the terminals of the limit control, and c and d correspond to the terminals of the on-off switch. Finding that the lamp was lighted by points b, c, and d, but not by point a, the expert turned off the switch, disconnected the two wires from the high limit control and connected them together, and turned on the switch again. The relay of the burner panel clicked in, but the oilburner motor did not start. A check-up on this, made by swinging open the flame observation door, brought out that there was no hiss from the spark.

"There was an open circuit in that high limit control," said the trouble-shooter, "I was going to give them heat in a hurry and then find the defect in the control. But now it appears there's something additional wrong with this job. The job's having more than one defect probably is the result of that plumber's fiddling with the wiring and controls all afternoon."

For a speedy re-check, he put his test lamp across posts 1 and 2 of the control panel (see Diag. #2), then across posts 2 and 3. The lamp lighted in both positions, indicating the panel was now receiving 110-volts and was trying to pass it along to the motor circuit. In a few seconds the safety device in the control panel tripped off because the burner was not running. He removed the cover of the oilburner motor junction box, connected his test lamp across the motor terminals, and pressed in the motor relay of the burner panel. The motor terminals were dead. But a further check-up showed that the live wire from post 3 to the motor actually was alive (the test lamp was connected to ground and to the live wire for the motor, while the relay was again held in, and this caused the lamp to light), and proved there was a break in the ground leg from post 2 to the motor. Examining closely, the expert found a wire broken inside of the tape which was over a connection of three ground wires located in the motor junction box.

He repaired the break in the ground wire, then started the burner to put heat on at once. Next he examined the high limit control closely. In it, a wire to the switch had broken inside its flexible insulation, in a way that made detection impossible except with the help of some kind of electrical tester. Repair was easy.

"For an amateur, it's a hundred times



as hard to lick two wiring defects at a time as to lick one," concluded the expert. "That's why the plumber got licked on this job. I'm ready to bet anyhow that his poking broke one of those wires.

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Connects directly to burner nipple. Eliminates tee, fittings, and tubing.

Due to the position of the metering stem, approximately in the center of the assembly, this valve can be tilted a reasonable amount without affecting fuel flow. Leveling by eye is satisfactory. This saves time at assembly and minimizes service calls.

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Safety mechanism trips from level of fuel in burner as well as level in valve. Results in less pooling of fuel in burner if fire is extinguished.

Magnetic trip mechanism is positive. Will not trip from vibration.

Low flows are extremely accurate and consistent—a decided advantage for low pilots on water heaters and furnaces. Variations in viscosity have little affect on fuel flow.

Fully temperature-compensated. Uniform fuel flow regardless of temperature assures full heater output at all times.

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Oilburner Export Figures Show World Oilheating Demand

The appraisal of the oilburner export market that follows was written in the form of a letter in answer to an inquiry. The information comes from Charles "Scotty" Muirhead of the General Products Div., Office of International Trade, U. S. Department of Commerce, Washington. Muirhead is the oilburner industry's representative for foreign trade promotion in the Department of Commerce.

ENCLOSED ARE THREE statistical tables: Table I, United States Exports of Domestic and Industrial Conversion Oil Burners and Oil-Fired Boilers and Parts, 1932-1946; Table II, 1946 United States Exports of Domestic and Industrial Conversion Oil Burners and Oil-Fired Boilers and Parts, and Table III, United States Exports of Oil Burners and Oil-Fired Burners and Parts to Sweden, 1932-1946. Schedule B numbers are shown at the top of these tables for convenient reference purposes.

Table I shows total exports to all countries, 1932 through 1946.

Table II shows 1946 exports, total and by consignee countries, which will give you some idea of current export demand. In appraising this table there are three important considerations: (1) All countries, with the exception of Canada, were under export quota for domestic type burners falling within Schedule B classification No. 615000, (2) products classified in 615100 and 615220 were not subject to export control but were shipped under General License, and (3) although the 1946 export volume exceeded all previous records, demand greatly exceeded shipments. Applications for export licenses were submitted in a volume greatly in excess of the quotas set up for the export of domestic type oilburners.

In order to appraise the markets by countries, the exporter may refer to the Department of Commerce annual publication "Foreign Commerce and Navigation of the United States" for data through 1944. Data on exports for subsequent periods will be found in FT 410. Oil burner exports, total and by country of destination, are shown in the Schedule B classifications given above.

Table III shows how a historical picture of United States exports to a country can be developed from the above-mentioned sources.

It should be noted that the classifications mentioned cover exports of burners and parts declared as such on the export declarations. Such components as motors, pumps, transformers, heating system controls, and fans which may ultimately be fabricated into oil burners but are exported separately will be classified under other Schedule B numbers. For example, electrical motors (fractional) are listed under Commodity Group 7, Schedule B Nos. 7040-7041.

Although these tables give the historical background of oil burner exports, they do not spell out the unprecedented demand that now exists throughout the world for oil heat. It is generally recognized that world fuels, their uses and availability, are undergoing major changes. The increasing cost of solid fuels is bringing liquid fuels into a closer balance of heat unit cost on a delivered for use basis. This is particularly true in countries dependent upon others for their fuel supply. These factors appear to be the most answers to present foreign demand. Such reasons as convenience and comfort, so pertinent to selection by United States and Canadian buyers, become of secondary importance in markets abroad.

Appraising the foreign market in the light of United States history: With very few exceptions, markets abroad from the standpoint of know-how would closely parallel our early twenties. Some of the points of caution worthy of consideration by the new exporter are as follows:

(1) The availability of exchange in the consignee country for the product. Exchange is granted liberally in some countries, on a limited basis in others, and not available in a few countries. Information of this sort can be secured from field offices of the Department of Commerce or from the Areas Branch in Washington.

(2) The general characteristcs of the importing country should be studied. The degree of acceptance of oil heat and the availability of acceptable fuels for the particular burner design should be carefully checked.

(3) The historical trade of the country should be studied in order to appraise the market prospects.

(4) Because individual markets may represent a limited demand for a single type, the wider the range of the manufacturer's line the better his opportunity for trading abroad.

(5) The exporter must be prepared to correspond in the language of the import-

TABLE I

United States Exports

of

DOMESTIC AND INDUSTRIAL CONVERSION OIL BURNERS AND OIL-FIRED BOILERS AND PARTS, 1932-46

(Quantity in units; value in dollars)

	Sched. B. No. 615000 *Domestic Conversion Oil Burners and Oil-Fired Boilers*		Sched. B. No. 615100 *Industrial Conversion Oil Burners and Oil-Fired Boilers*		Sched. B. No. 615220 *Domestic and Industrial Oil Burner Parts*	*Domestic and Industrial Oil Burners, Oil-Fired Boilers and Parts*
Year	*Units*	*Value*	*Units*	*Value*	*Value*	*Total Value*
1932	3,826	$ 659,183	1,574	$ 259,142	$ 171,755	$ 1,090,080
1933	3,593	555,132	1,701	269,446	315,868	1,140,446
1934	3,502	581,650	1,393	228,927	284,796	1,095,373
1935	4,082	576,855	1,847	196,656	234,917	1,008,428
1936	4,648	623,822	1,027	182,955	401,902	1,208,679
1937	6,329	788,930	1,440	239,317	277,401	1,305,648
1938	5,746	700,112	1,407	208,116	217,765	1,125,993
1939	4,990	544,102	2,290	298,531	242,478	1,085,111
1940	2,969	348,374	1,812	246,056	243,445	837,875
1941	2,143	201,599	1,662	250,906	332,322	784,827
1942	926	87,992	1,729	211,838	139,814	439,644
1943	707	67,533	1,103	220,085	238,677	526,295
1944	747	77,640	1,507	275,904	366,621	720,165
1945	6,770	494,830	3,326	747,663	1,056,848	2,299,341
1946	40,912	2,349,512	6,489	1,258,566	1,933,194	5,541,272
Total	91,890	$8,657,266	29,537	$5,094,108	$6,457,803	$20,209,177

SOURCE: FOREIGN COMMERCE AND NAVIGATION OF THE UNITED STATES
Prepared in General Products Division, Commodities Service, Office of International Trade.

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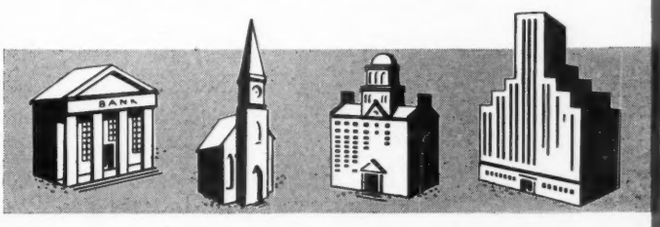

Big opportunities for these Installations

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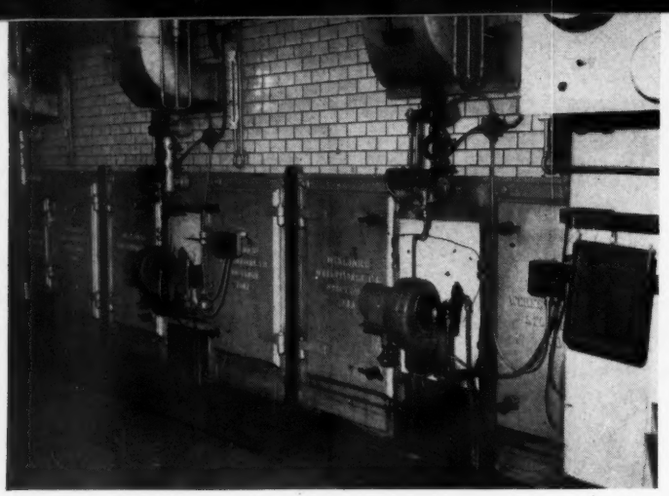

Left: *Silent Glow burners in a Stockholm, Sweden, Theater.*

Right: *Oil-O-Matic burners in Equity Trustees Building, Melbourne, Australia.*

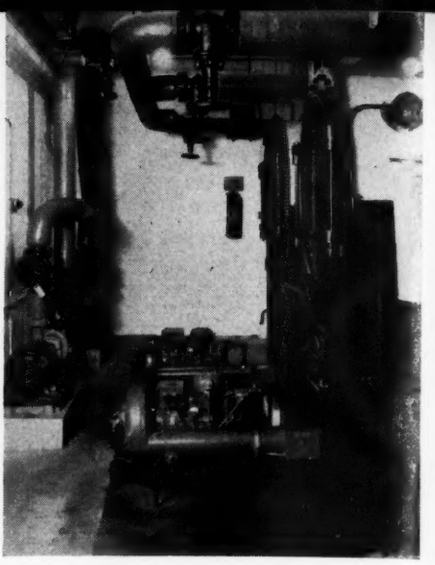

TABLE II

1946 United States Exports*

DOMESTIC AND INDUSTRIAL CONVERSION OIL BURNERS AND OIL-FIRED BOILERS AND PARTS

Country	Sched. B. No. 615000 Domestic Conversion Oil Burners and Oil-Fired Boilers		Sched. B. No. 615100 Industrial Conversion Oil Burners and Oil-Fired Boilers		Sched. B. No. 615220 Parts For Burners Domestic and Industrial	Total by Countries
	Units	Value	Units	Value	Value	Value
Canada	36,930	$1,900,831	3,361	$ 395,609	$1,576,069	$3,872,509
Newfoundland	226	17,892	21	6,097	42,548	66,537
Mexico	323	37,632	881	245,992	61,303	344,927
Venezuela	103	10,007	263	57,734	21,015	88,756
Sweden	1,395	163,130	463	92,736	28,372	284,238
Norway	251	42,343	113	54,092	2,542	98,977
Netherlands	159	22,617	231	76,054	5,333	104,004
Belgium	302	16,167	8	2,153	3,138	21,458
Switzerland	116	14,812	42	1,041	25,924	41,777
Syria	93	9,613	4	568	45	10,226
S. Arabia	16	7,089	—	—	3,713	10,802
Cuba	28	3,348	202	52,222	7,957	63,527
Colombia	50	5,943	113	32,546	8,542	47,031
Peru	139	2,423	23	18,373	21,022	41,818
Brazil	28	5,586	159	49,152	2,574	57,312
Uruguay	145	12,987	46	20,408	3,192	36,587
Portugal	25	3,305	—	—	—	3,305
China	39	2,299	74	11,102	7,498	20,899
Egypt	15	2,195	14	1,207	1,385	4,787
Argentina	5	1,830	72	29,569	—	31,399
All Others	524	67,463	399	111,911	111,022	290,396
Total	40,912	$2,349,512	6,489	$1,258,566	$1,933,194	$5,541,272

*Foreign Commerce and Navigation of the United States.
Prepared in The General Products Division, Commodities Service, Office of International Trade.

TABLE III

Exports To Sweden, 1932-46

Year	Sched. B. No. 615000 Domestic Conversion Oil Burners and Oil-Fired Boilers		Sched. B. No. 615100 Industrial Conversion Oil Burners and Oil-Fired Boilers		Sched. No. 615220 Parts for Burners Domestic and Industrial	Total Value
	Units	Value	Units	Value	Value	
1932	101	$ 20,106	2	$ 276	$ 6,786	$ 27,168
1933	69	10,083	26	5,431	2,102	17,616
1934	304	50,198	35	4,374	720	55,292
1935	441	63,822	8	1,473	4,546	69,841
1936	677	100,785	11	2,387	2,615	105,787
1937	1,417	183,887	8	2,415	10,672	196,974
1938	2,232	225,843	56	11,294	16,794	253,931
1939	1,435	136,211	402	51,979	10,351	198,541
1940	38	3,801	12	2,829	1,270	7,900
1941	—	—	—	—	—	—
1942	—	—	—	—	—	—
1943	—	—	—	—	—	—
1944	—	—	—	—	—	—
1945	20	859	4	1,393	459	2,711
1946	1,395	163,130	463	92,736	28,372	284,238
Total	1,395	$958,725	1,027	$176,587	$84,687	$1,219,999

Source: Foreign Commerce & Navigation of the United States.
Prepared in The General Products Division, Commodities Service, Office of International Trade.

ing country in most cases, and make available in the foreign language the service manual and engineering data pertinent to the application of his burner.

(6) Burner design and control mechanisms must have the electrical power characteristics of the importing country. There is a wide variety of such characteristics which should be thoroughly understood in order that United States production schedules may be properly geared to meet such specifications. As a guide for this study we recommend the Department's publication "Principal Lighting Voltages in Foreign Countries," release No. 135 of "World Electrical Markets" series. These data are now being revised for release in Industrial Reference Service, Part I. The publication will be available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., or field offices of the Department of Commerce for 5 cents.

(7) The selection of a foreign representative is of vital importance, particularly in the interest of repeat business. Financial soundness, prestige in the market, and satisfactory coverage of the area allotted to the importer are of prime importance.

We are now preparing releases, based on reports from the Foreign Service offices, which will be published in Industrial Reference Service, Part 4, on the situation in individual foreign markets for oil burners.

The facilities of the Department of Commerce are always available to industry. These facilities are described in the publications "Channels for Trading Abroad," Economic Series No. 52, and "Guides for New World Traders," Economic Series No. 59.

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Here is good news for heating contractors. The famous QUAKER Conversion oil burner is again in production. Widely known before the war as being exceptionally well engineered *and* priced to fit the special needs of the small home owner. The QUAKER Conversion oil burner is a quick seller that is simple and easy to install. Here is an opportunity to supplement your line with a burner especially designed for the mass market of small homes.

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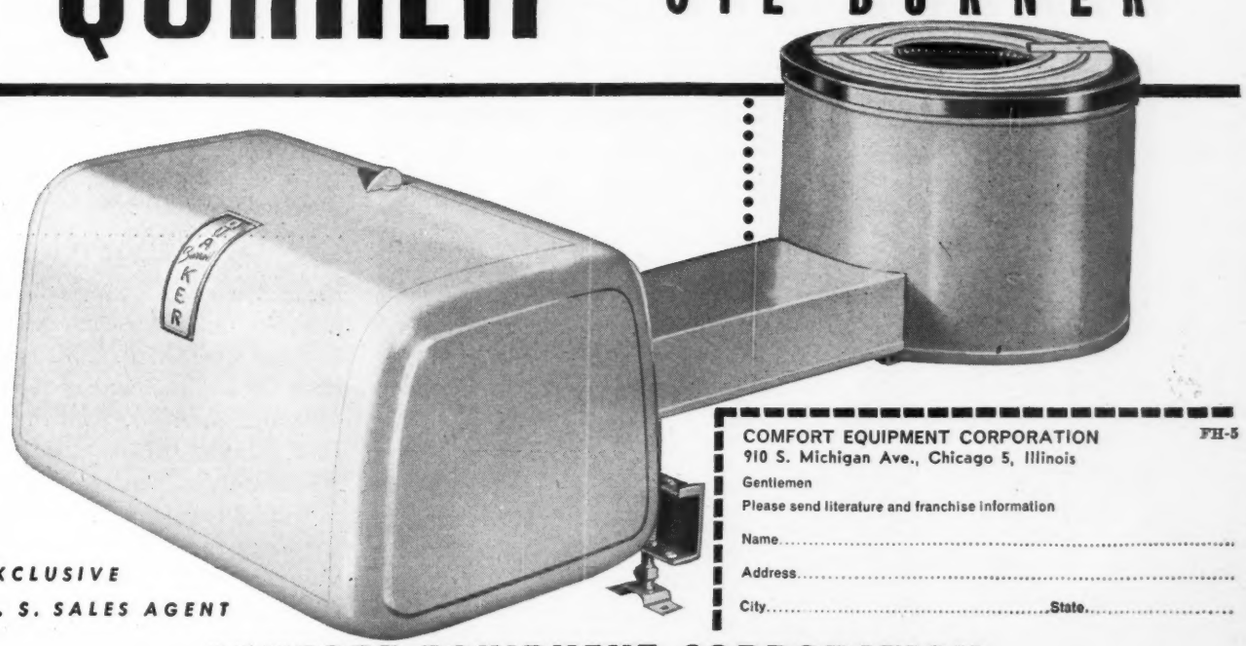

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Committees Appointed at A.P.I. French Lick Meeting

AT THE QUARTERLY meeting of the Marketing Committee of the American Petroleum Institute at French Lick, Indiana, on April 1 and 2, four committees were appointed by B. L. Majewski, the Institute's vice-president in charge of marketing. First was a Committee on Marketing Services, to study ways in which A.P.I. can most constructively help oil marketers throughout the country. C. M. Gile, vice-president of Gulf, was named chairman, and Robert J. Rogers, of Guarantee Oil Co., Indianapolis, vice-chairman. Other members are W. C. Burns, J. E. Dyer, S. B. Eckert, H. E. Hanson, Carl Jenswold, R. W. McDowell, A. L. Nickerson, T. S. Petersen and John W. Scott.

The next appointment was a Committee for Compilation of Municipal Ordinances Affecting Sale of Products. A. L. Nickerson, Socony-Vacuum, is chairman, and members are A. Clarke Bedford, J. E. Dyer, Ray M. Parker and Wayne C. Yeager.

Then there was named a Committee to Nominate Jobber Members to the Institute's Board of Directors. A. Clarke Bedford, Standard of Jersey, was made chairman, and members were H. E. Hanson, Walter Hochuli, R. L. Kent, Russell Williams and Key Yeates. The jobbers that they nominated are Don Dickey, Wayzata, Minn., John L. Harper, Long Island City, N. Y., R. L. Kent, Salina, Kans., and Russell Williams, Indianapolis.

The final appointments were to a Consumer Research Study Committee and S. B. Eckert of Sun is chairman, with members Fred Bannerot, Royal Decker, H. E. Hanson, J. L. Nolan and Eric V. Weber.

Personalities at French Lick—*Top Row: Harry Kennedy, Continental Oil, Robert J. Rogers, Guarantee Oil, Indianapolis, S. B. Eckert, Sun Oil, B. L. Majewski, Deep Rock Oil and chairman of the meetings.*

Second Row: Dr. John Frey, A.P.I., H. E. Hanson, Indiana Standard, and A. A. Stambaugh, Standard of Ohio.

Third Row: John L. Harper, Harper Oil, Long Island City, Walter Hochuli, Texas Co., H. L. Thatcher, Thatcher Oil, Chattanooga, Tenn.

Fourth Row: Jimmie Doolittle, Shell Union, P. E. Lakin, Shell Oil, D. P. Baity, Indiana Standard, and A. L. Nickerson, Socony-Vacuum.

Introduced After Years of Research – First Mentioned in Ads Back in 1943 . . .

THE *Future* HAS ALREADY BEGUN

War-sponsored industrial progress has focused attention on a magic word—Electronics—the name of a great, new industry for tomorrow which will change our present concept of living. Though hazy to you now because little that is tangible has been told, the electron tube is the secret of radio broadcasting and reception.

The science of Electronics has already had limited applications other than radio, yet its fully developed function lies ahead.

Webster Electric has been familiar with the principles of Electronics since the early days of radio. The Webster Electric "Delaytrol," illustrated here, is an example of the application of the electron tube to more comfortable living. The "Delaytrol" is an electronically regulated fuel supply unit for oil burners which provides precise control of oil-burning equipment.

Because of the electronic tube in the "Delaytrol," draft-before-firing is established, dead air is quickly removed, back pressure is eliminated, vibration "flutter" is done away with, smoking prevented, and the flame is cut off instantaneously, thereby clearing out burned gases and preventing the accumulation of soot.

The "Delaytrol" has been a product of this company for a number of years. It will be followed by other products in the days to come, in which our knowledge, experience and skill in building products involving electronics, hydraulics, electricity and mechanics will raise the standards of living. And these products will always incorporate the high quality which has been so conspicuous in Webster Electric products for more than thirty years.

Yes, we in this sound, stable company know that the future has already begun.

WEBSTER ELECTRIC COMPANY, Racine, Wisconsin, U.S.A. Established 1909. Export Dept., 100 Varick Street, New York City. Cable Address, "ARLAB", New York City

WEBSTER ELECTRIC

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Back in 1943, the above ad "The Future Has Already Begun," was run forecasting the eventual release of this new Instantaneous Cut-Off. Changed and improved from its original design, it now reaches you more simplified with the best engineering principles incorporated.

Foresighted research and engineering behind this new Instantaneous Cut-Off Fuel Unit represents years of effort. Not content until the design was simple and sound, Webster Electric Engineers continued efforts until they could release this new item with pride. Here it is with features far superior to any on the market today. It has no sliding close fitting parts—no mechanical seals are involved—there is no need to disconnect any electrical circuits to service valve or strainer—emphasis has been placed upon simplicity. It works instantly—efficiently—and quietly. It has the ability to collapse instantaneously the pressure from two hundred pounds per square inch at seventy volts.

The moment circuit on electro-magnet valve opens—pressure collapses instantaneously. No time element is involved. Flame is cut off before motor reduces speed. Magnetic valve instantly releases capacity of pump into by-pass circuit causing complete collapse of pressure in standard duplex valve. You get absolute clean burning—start—running—and stop—no soot—cut off is instantaneous and complete—it prevents "puff-back" or "flutter" in the combustion area.

The Webster Electric Instantaneous Cut-Off Unit is adaptable to present day equipment and modernization of equipment six to eight years old. Read the features shown here, then send your inquiry to Webster Electric for complete information and folder.

Here Are the Main Features!

EASY TO INSTALL—entirely standard with Webster Electric mounting and service characteristics. Parts are identical in seal—strainer and valve with well known Webster Electric standard fuel units. Electrical connections can be brought into mechanism or simple terminal board electrical connections parallel motor leads from either side of unit.

NO SPILLING OF OIL—The Instantaneous Cut-Off does not interfere with servicing strainer—there is no spilling of oil when servicing.

ADDED SAFETY FEATURES—Besides the electro magnetic valve, a standard duplex regulating valve operates normally and independently of the electric action.

SOUND ENGINEERING . . . The wide experience of Webster Electric Engineers and years of development work have given the Instantaneous Cut-Off Fuel Unit sound, dependable engineering design.

SIMPLICITY OF DESIGN . . . No engaging or disengaging mechanism of close fitting parts that might stick . . . a small compact unit . . . complete and simple in operation.

NO HIGH PRESSURE . . . No high pressure sealing is required, magnetic valve operates in by-pass chamber.

FOR EITHER SINGLE OR TWO STAGE UNIT . . . The Webster Electric Instantaneous Cut-Off Valve can be furnished on either of the above types of fuel units.

DESIGN . . . The engineers of Webster Electric Company know heating requirements and have worked years to develop and perfect this new Webster Electric Instantaneous Cut-Off Valve to the same high standard of perfection as all other Webster Electric products.

Write for Full Information!

WEBSTER ELECTRIC

RACINE WISCONSIN

Established 1909

Export Dept.: 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Majewski, Ryan Featured Speakers At New England

AT THE TWENTY-THIRD Annual Convention of the Independent Oil Men's Assn. of New England April 15 and 16 at Boston's Hotel Statler, Paul Ryan, president of United States Pipe Line Co., New York, Barney Majewski, vice-president of Deep Rock Oil Co., Chicago, and vice-president for marketing of the American Petroleum Institute, and O. John Rogge, former Assistant Attorney General of the U. S., were the headline speakers at the various sessions.

In addition, the New England Town Meeting, an annual feature that occupies one full morning, was devoted this year to "Burner Service in the Public Interest," a five-man panel discussion of down-to-earth daily activities of the fueloil distributors and burner men. Members of the panel were John R. Sherwood, Sherwood Bros., Baltimore, Charles Whitney, Petrol Corp., Philadelphia, Herbert M. Spade, Robison Oil Co., Hartsdale, N. Y., Alfred Buckley, Buckley & Scott, Providence, R. I., and Robert Gray, FUELOIL & OIL HEAT, New York, who was moderator.

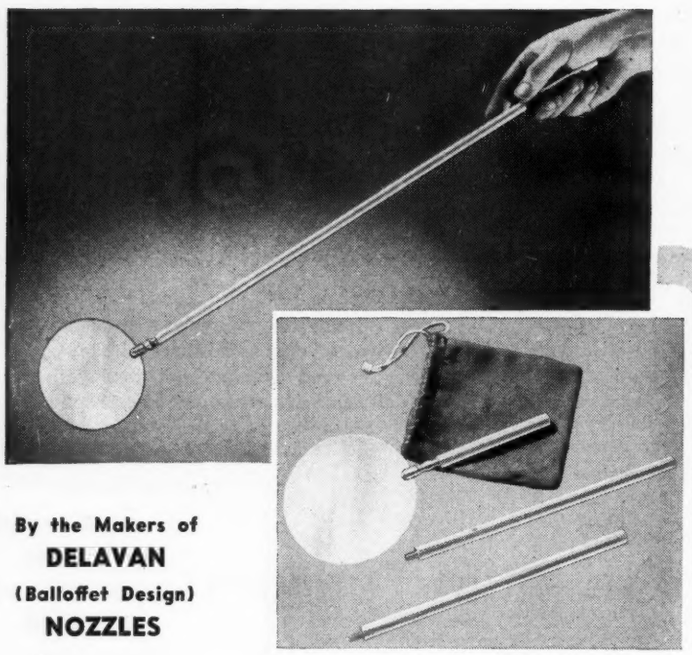
Because the various papers presented by the panel members and the question-and-answer part of the session contained information useful to other segments of the oilheating industry, this forum discussion will be covered in detail in the June issue of the magazine.

At the opening session of the Convention, Dr. John W. Frey, Director of Marketing for the American Petroleum Institute, first described something of his department's activities and then introduced the speakers of the afternoon. Ryan's subject was "The Small Business Man's Opportunities in Public Relations." He made the point that the oil industry had been so busy growing and helping to raise the American standard of living that it had never before taken time out to tell the public about itself, but that this was the industry's No. 1 job in the months ahead.

Showing how the industry had not recognized that it had done anything particularly meritorious, Ryan used the quotation, "Kings born to the purple speak without emphasis of crowns and scepters." He emphasized the importance of the fuel-oil distributor in making folks like the oil industry, because it is only at the retail level that the industry meets any considerable segment of the populace, and declared that as an industry we must accelerate the job of raising public opinion of us before we are attacked by political demagogues.

Following Ryan, Keeton Arnett, vice-president of Fred Eldean Organization, New York, which has been employed by A.P.I. to conduct the 1947 Public Relations Campaign, spoke at some length on details of the original survey that had proven the necessity for improved public relations, and introduced a considerable amount of literature that has ben prepared for distribution. The strongest point that Arnett made was that while people may like your product as consumers they may, as citizens, dislike your company and

DELAVAN Inspection Mirror



By the Makers of
DELAVAN
(Balloffet Design)
NOZZLES

ANOTHER HELP FOR THE OIL BURNER SERVICEMAN

The new Delavan Inspection Mirror is extremely useful for inspecting flame behavior, electrode setting, condition of combustion chamber, flues, etc. Hinged joint permits use of mirror from any angle. High-reflecting mirror will stand considerable heat without discoloration. Heavy cloth bag protects reflecting surfaces when not in use. The handle is made in sections to fit into the Delavan Serviceman's Kit. Extension section may be added.

ONLY $2.95 Complete

ORDER FROM YOUR JOBBER

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

DELAVAN ENGINEERING CO.
Established 1937
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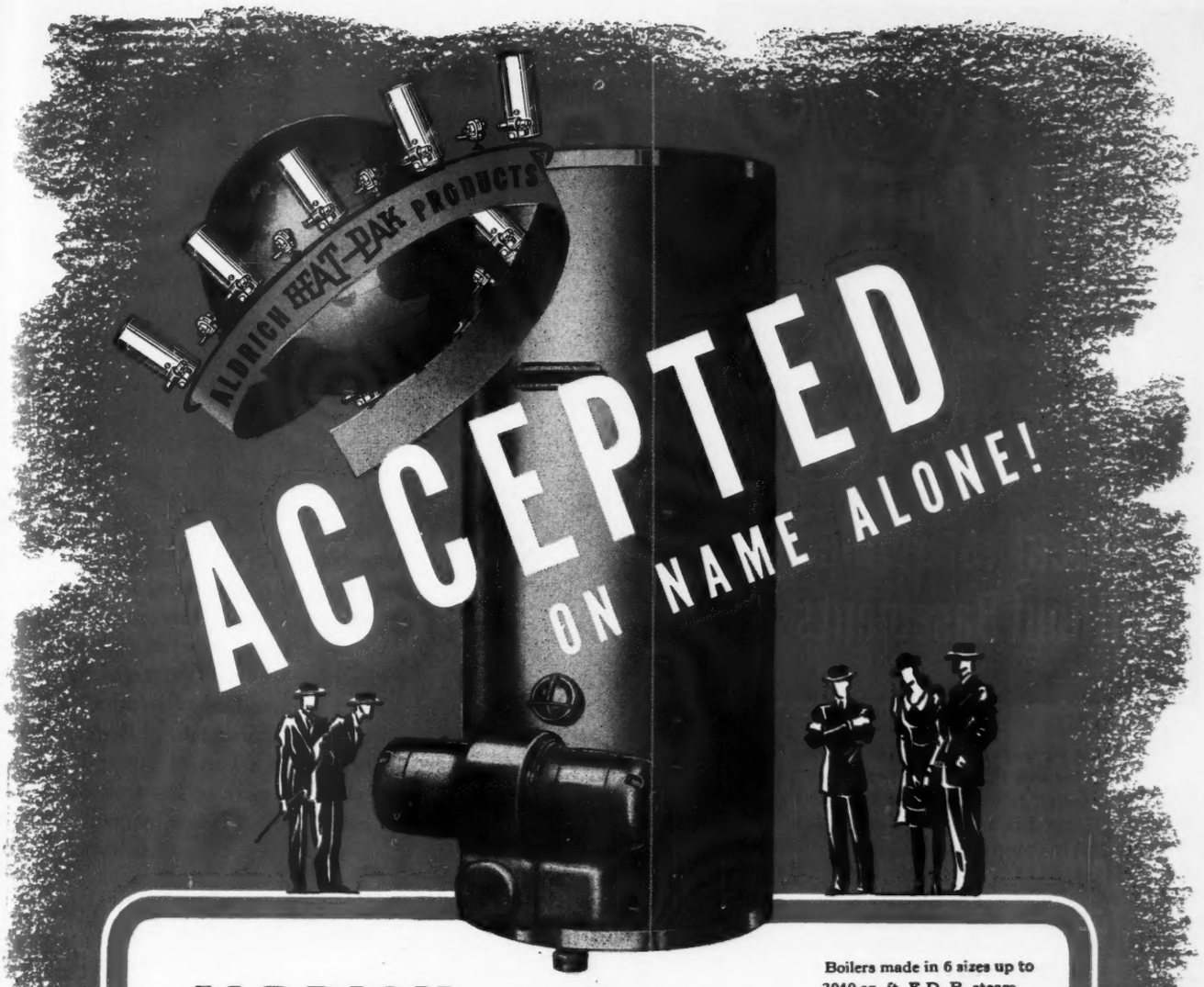


Boilers made in 6 sizes up to 3040 sq. ft. E.D. R. steam.

ALDRICH HEAT-PAK OIL BURNERS AND BURNER-BOILER UNITS . . .

Model AX .75 to 5.00 G. P. H.
Model BX 4.00 to 9.00 G. P. H.
Jumbo 5.00 to 19.00 G. P. H.

. . . because the name, ALDRICH, means quality! It is a reputation attained after years of manufacturing experience, engineering leadership, designing skill. For conclusive proof of performance and efficiency on the job, Aldrich HEAT-PAK products were standard equipment in U. S. Insular Bases. Aldrich, the leading oil burner manufacturer, *guarantees* satisfactory performance!

Because Aldrich will not sacrifice standards of quality, production will be slow until the shortage of good materials is overcome.

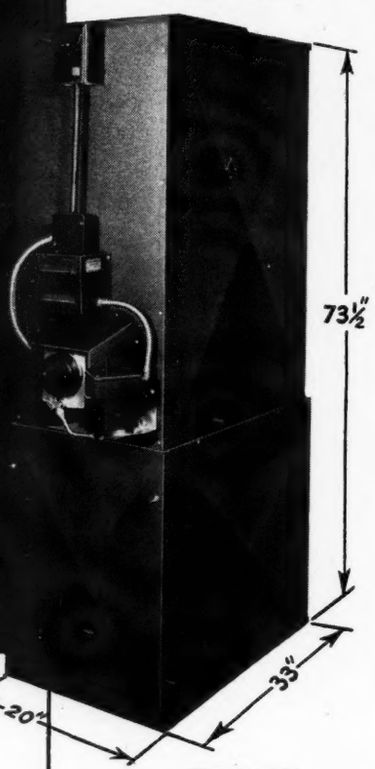
ALDRICH COMPANY

WYOMING ILLINOIS

KNOWN and USED the WORLD AROUND!

New COMPACT *H.C.Little* OIL FURNACE

Is Ideal for Homes Without Basements



Listed by Underwriters' Laboratories for Use in Enclosed Spaces

For modern homes without basements, H. C. Little has especially designed this extremely compact and highly efficient "HIGHBOY" *Automatic Winter Air Conditioning Oil Furnace.*

VERY QUIET OPERATION

One of this unit's important sales features is its extremely quiet operation. Because of the non-mechanical H. C. Little Oil Burner, there is no objectional roar, hum or pulsation. The blower, too, is unusually quiet, being one of the most noiseless and efficient obtainable.

AUTOMATIC ELECTRIC IGNITION

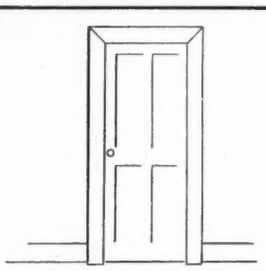
Once installed, the H. C. Little "HIGHBOY" operates automatically, with NO PILOT LIGHT, by means of thermostatic control and electric ignition. Among all manufacturers of vaporizing burners and furnace burner units, ONLY H. C. Little can offer you the big competitive advantage of fully automatic equipment with electric ignition.

Write for Complete Information

INQUIRIES FROM EASTERN AND MIDWESTERN DEALERS ARE ESPECIALLY INVITED

Convenient utility room installation

Operation is extremely quiet



Out of sight, Out of mind

H.C.Little BURNER CO.

SAN RAFAEL CALIFORNIA

Branches in 16 Principal Cities

For Information Use the Coupon

H. C. Little Burner Co., Dept. 5
San Rafael, California
As dealers, we are interested in your Oil Burning "HIGHBOY" Winter Air Conditioner.

_____

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_____

your industry. This was made clear in the survey, where many people spoke highly of oil products, yet believe that the industry is monopolistic, a group of price-setters, and hold other unfavorable views.

Majewski told something of Midwest marketing and its troubles of the past winter with fueloil supply, some of the discussion of the French Lick A.P.I. meeting earlier in the month, of which he had been in charge, and where the threatened product shortage had been a topic of much informal conversation, and closed by explaining the work of the National Petroleum Council, which was to meet a few days hence in Washington, and where he planned to ask for thorough investigation of the industry's ability to serve full public needs in coming months. Barney upheld his reputation as a particularly colorful and entertaining speaker.

A series of four oil industry motion pictures was then presented by Shell Oil Co., Inc., and the convention closed with the after-dinner talk of Rogge, who told of "Oil as a Part of Power Politics," in which he more or less took the large oil companies apart, one by one, and showed how they tick, away from home.

◈

Oregon Fuel Merchants Hold Annual Meeting

THE THIRTEENTH ANNUAL MEETING of the Oregon Fuel Merchants Association, held in Portland, Oregon, April 28, featured a talk by W. A. Matheson, vice president and general manager, Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill. In addition to the reports of committee chairmen and the election of officers, the dinner meeting heard a report on the annual meeting of Oil Heating Institute, held March 24 to 26 at Atlantic City, by Charles R. Holloway, Jr., past vice-chairman, Distribution Division, OHI.

◈

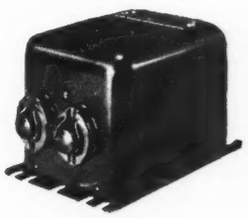
REMA Elects Officers At Annual Meeting

REFRIGERATION EQUIPMENT Manufacturers Association elected E. M. Flannery president at its annual meeting in Chicago April 9 to 11. Other officers elected were H. F. Hildreth, vice president; R. H. Israel, treasurer; K. B. Thorndike, secretary. With Mr. Flannery, these three comprise the executive committee.

Two Great Plants – To Serve You Better

The newly added Fall River, Mass., factory—250,000 sq. ft. of manufacturing space.

The modern Bellwood, Illinois, main plant and offices — over 250,000 sq. ft. of manufacturing floor space.



During more than 30 years of unsurpassed performance, users of Jefferson Electric Transformers have come to place complete reliance in their fitness for each particular application.

The Fall River plant addition—put in operation in late '46—insures still greater output. This with the greater use of latest types of machinery and equipment and control of materials and manufacture of all parts to final assembly assure the uniformity of quality on a quantity basis that has always distinguished Jefferson Electric products.

Expanding output, with a greater supply of vital raw materials will make it possible to meet your requirements better than ever before. JEFFERSON ELECTRIC COMPANY, Bellwood (Chicago Suburb), Illinois. *In Canada:* Canadian Jefferson Electric Co., Ltd., 384 Pape Avenue, Toronto, Ont.

JEFFERSON ELECTRIC

TRANSFORMERS

Shortages, Public Relations Stressed at Asbury Park Meet

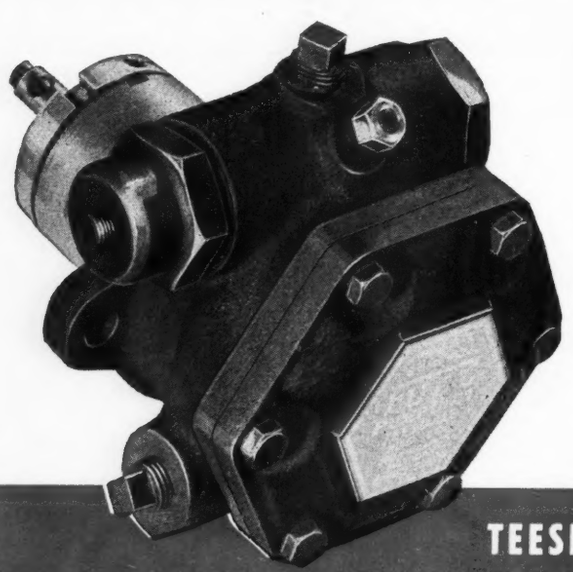
AT THE NINTH ANNUAL convention of the Fueloil Distributors Assn. of New Jersey at Asbury Park April 24 and 25, fueloil supply problems in coming months and various public relations topics made up most of the agenda. President Charles S. Bruett and executive secretary A. W. Rich reported that registration at the sessions represented a new high point, which was obvious from the fact that quite a number of fueloil men were unable to get tickets to the industry luncheon on the first day and to the annual dinner dance that evening.

On the first morning Joseph L. Dugan opened the sessions with a talk on "The Role of Ispection as Related to the Petroleum Industry." Dugan is connected with E. W. Saybolt & Co., widely recognized firm doing this type of work for all branches of the industry. Then R. T. Bratt, Standard of Jersey's installation and service manager, presented a paper on "Building Oil Sales Through Installations and Service," pointing up the fact that in studies they had made it appeared that 37% of new fueloil customers come through recommendations of satisfied users, and that one of the most effective ways to build in customers' minds a recognition of superiority of any oil company is through excellence in burner installations and service. Bratt emphasized the importance to burner service of promptness, courtesy and a recognition that what may seem trivial to a mechanic is often quite important to the customer, and should be treated as important. He also stressed the need for skill, presentable dress in service men, and suggested that these men should not talk to customers any more than necessary, because the talkative type of man destroys more confidence than he builds.

At the luncheon meeting, James Wright, vice-president of Coastal Oil Co., Newark, and an Army colonel in the recent war, told a lot about what Americans learned of the German oil industry as they moved in at the close of hostilities. A high spot in the talk was a description of a complete oil refinery built underground. A hill, 250 ft. high, had been hollowed out by thousands of slave laborers brought in from captured countries, and a modern refinery built. This plant was still intact when the war ended and supplied quite a lot of the civilian needs for a time. Wright further told of the Army's impression that one of the causes of Germany's collapse as early as she did was the almost total absence of petroleum pipe lines. Full dependence upon surface transportation had tied the country up in knots when the air raids knocked out these facilities faster than they could be replaced.

Following Colonel Wright, Robert Gray of FUELOIL & OIL HEAT delivered a paper on "Fueloil is a Balance Wheel," giving special emphasis to the importance of heating distillates in the refinery econ-

Teesdale FUEL CONTROL UNIT
TYPE 3-S
A MOST EFFICIENT AND TROUBLE-FREE PRESSURE PUMP UNIT FOR OIL BURNERS



NO TANK HUM . . . QUIET!
Easy to install — fits all standard burners
FULLY AUTOMATIC
ORDER NOW! BE PREPARED
DEALERS: Order a quantity today . . . to have in stock for immediate installation when needed. Keep customers smiling by having their burners operate efficiently.

TEESDALE MANUFACTURING COMPANY
427 MARKET AVE., GRAND RAPIDS 3, MICHIGAN

"INSTANT HEAT"

Various parts of the burner

DESCRIPTION	MATERIAL
Blower Housing	Aluminum
Back Plate	Aluminum
Oil Line	Copper
Stand Pipe	Steel
Base	Aluminum
Blast Tube	Steel
Air Stabilizer	Aluminum
Nozzle Assembly	Brass & Aluminum
Air Cone	Cast Iron or Bronze
Electrodes	Standard
Air Shutter	Aluminum
Pump	Standard
Motor	Standard
Transformer	Standard
Fan	Steel
Coupling	Rubber

SPECIFICATIONS

FUEL UNIT: SUNDSTRAND, TUTHILL & TEESDALE

MOTOR: 1/6 H.P., 1/6 H.P., 1/5 H.P., & 1/4 H.P., 1725 R. P. M.

TRANSFORMER: SUPER ELECTRIC, WEBSTER, & GENERAL ELECTRIC.

NOZZLE: HAGO.

FAN: LAU BLOWER WHEELS.

STACKSWITCH: MINNEAPOLIS-HONEYWELL.

THERMOSTAT: MINNEAPOLIS-HONEYWELL.

LIMIT CONTROL: MINNEAPOLIS-HONEYWELL.

IGNITION: ELECTRIC.

PRESSURE: 100 lbs.

CAPACITY: UP TO 5 G.P.H.

Approved by Underwriters' Laboratories, Inc.; Board of Standards and Appeals; Commonwealth of Massachusetts and State of Connecticut.

ENDORSED BY USERS as giving the greatest amount of heat for the least amount of fuel consumed.

ENDORSED BY SERVICEMEN as the "Serviceman's Delight" because of its simplicity in servicing, and minimum of service calls.

ENDORSED BY INSTALLERS because of the perfect alignment between Pump and Motor and superiority from an engineering and construction standpoint.

ENDORSED BY JOBBERS because of its selling advantages from a standpoint of quality and price.

...For Every Type of... HEATING System

MONEY SAVED with "INSTANT HEAT"

MOST *Reliable...* MOST *Efficient...* MOST *Economical*

Because of increased production, several exclusive Instant Heat distributorships are now available. Wire, write or phone immediately for details.

BUILT TO SATISFY

Instant Heat Oil Burner Corp.

OIL BURNER MANUFACTURERS

8010—17th AVENUE, BROOKLYN 14, N. Y.

WITHIN REACH OF ALL

omy. The paper is reproduced elsewhere in this issue.

Then W. A. Sullivan, senior consultant, Product Applications Dept., Shell Oil Co., Inc., New York, discussed at some length, "Cat Cracked Fuels and Their Application." Sullivan listed a number of advantages to be experienced in using this type of fuel, with the only disadvantage being a greater tendency to smoke if everything is not in good adjustment. The principal advantages listed were higher heat content per gallon, lower pour point, which facilitates cold weather delivery, and the fact that the catalytic process brings refinery flexibility to the degree that it is possible to get substantially more heating oil from a barrel than was formerly done.

At the second day session, Dr. Gordon Volkenat, assistant director of research, Minneapolis-Honeywell Regulator Co., provided an interesting half hour by exploring "Heat Control by Electronics."

Wiley Butler, president of Coastal Oil Co., opened the after lunch series of talks with a clear and concise description of "The Industry's Public Relations Program." Butler is a director of the American Petroleum Institute and a member of its Public Relations Committee for the Middle Atlantic States. He pointed out some of the misconceptions about the oil industry in the public mind, as demonstrated by the Princeton Survey a few months ago, and explained how the new program is designed to correct some of these wrong impressions. He also explained the new literature that is being made ready for general distribution to all elements of the oil industry.

G. D. Donald, Standard of Jersey division manager, talked on "The Fueloil Supply Outlook." This is a subject of considerable concern, resulting in high interest in Donald's paper. A few pertinent statements contained in the discourse are:

"Our obligations fall into three classifications: first, our responsibility to our Government to make sure that our military and other governmental needs are met; second, to supply our existing customers with their normal requirements—and I wish to emphasize "existing customers"; third, to help war-torn Europe—and in doing this it will be necessary to furnish oil for the movement of ships and products to help the people in Europe rehabilitate themselves until such time as their damaged facilities are repaired or replaced.

"All of us are interested in the question of future oil supplies. The members of the oilheating industry want to know how far they can expand, how many burners they may install, and if they can continue to promise their customers that fuel will be available."

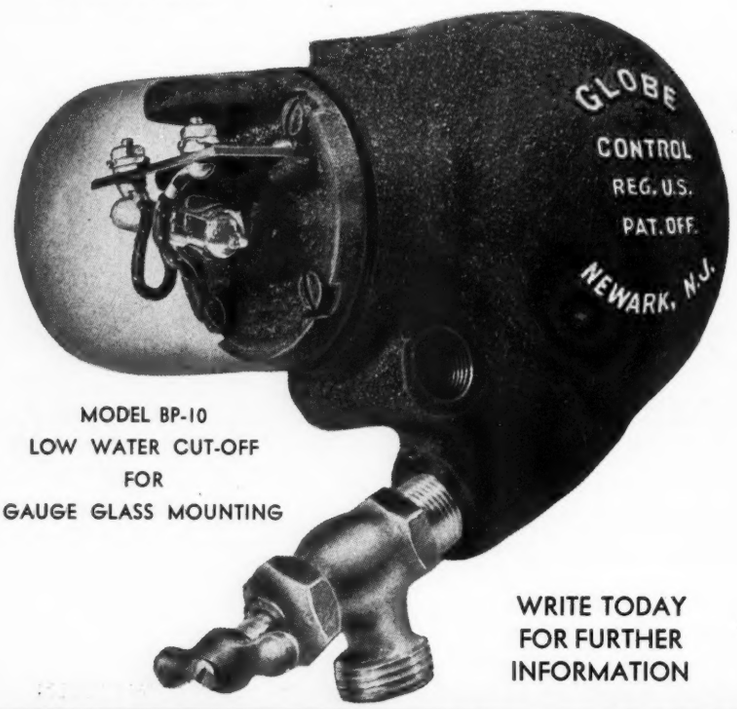
After describing the many bottlenecks that make it difficult to provide petroleum products in full measure until new facilities can be put to use, and making a plea to all segments of oilheating to assist in every way possible through continuous full storage, statistical information and future demand estimates, Donald went on to describe technical developments that are progressively making possible larger cuts of distillate fuels from the barrel, principally through decreasing yields of residuals. He concluded that heating oil and kerosene supplies should be adequate to meet 1947-48 needs unless we encounter some unexpected road-blocks . . . such as labor troubles that cause shutdowns, or other catastrophes such as the one at Texas City, and further assuming

Globe "DEPENDABLE CONTROLS"

MERCURY TUBE CONTROLS to REGULATE BOILER WATER LEVEL—

Globe Low Water Cut-Offs Continue to lead the field for Dependability—Durability—Economy—with these new added features—

1. *Larger float chamber—reenforced float and bellows assembly.*
2. *Complete core casting—eliminating possibility of leaks.*
3. *Combination gauge glass fitting with tapping for pressure control.*



MODEL BP-10
LOW WATER CUT-OFF
FOR
GAUGE GLASS MOUNTING

WRITE TODAY
FOR FURTHER
INFORMATION

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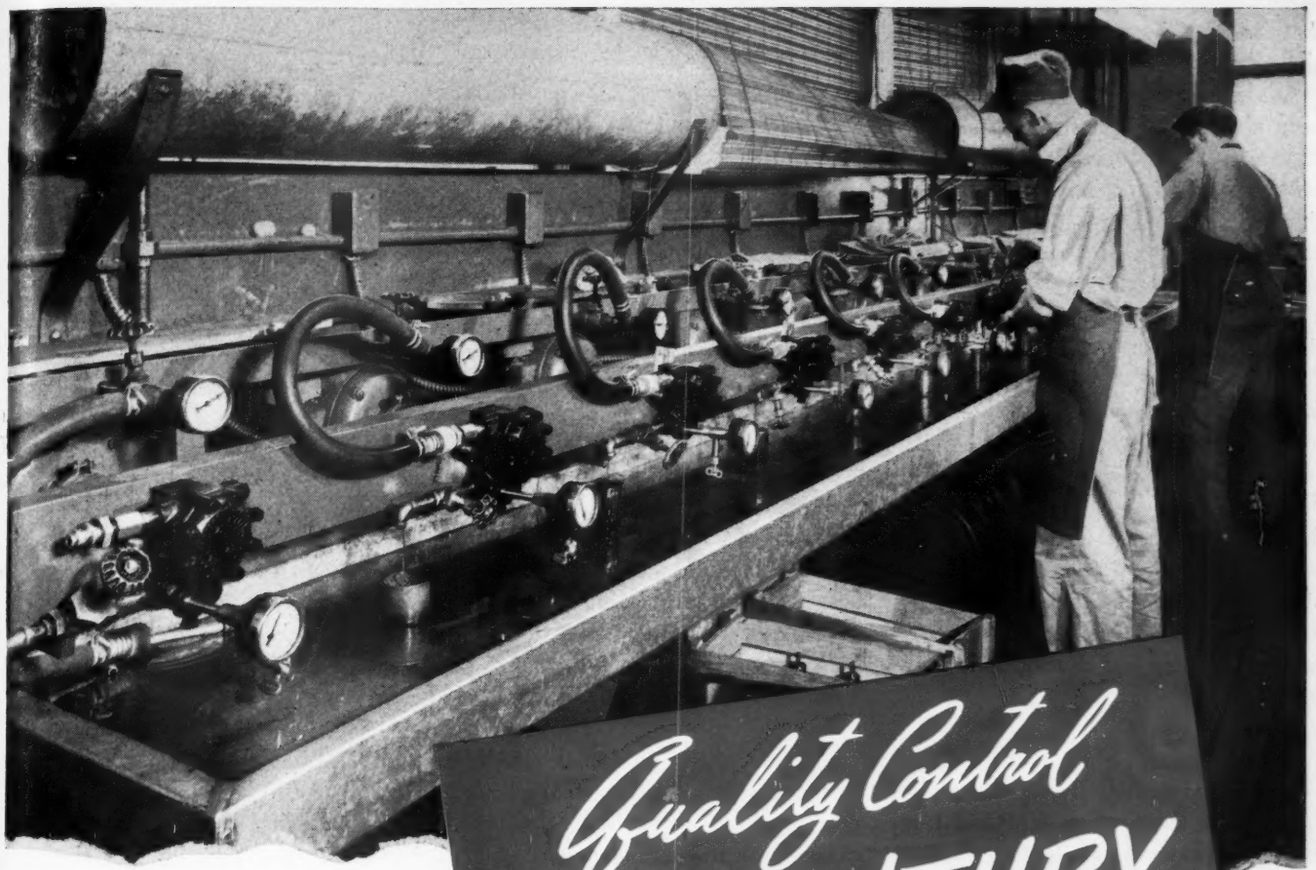


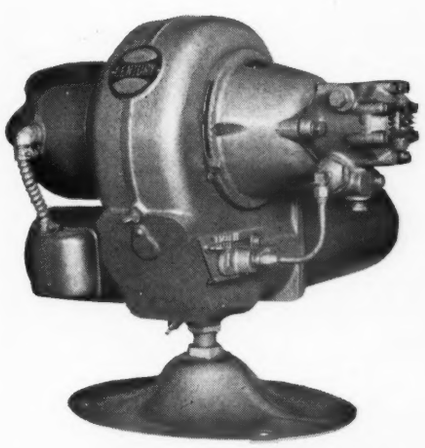
Quality Control AT CENTURY

ASSURES LOW MAINTENANCE COSTS

Century pumps are thoroughly tested by the pump manufacturer before shipment. At Century they are again tested as shown in the above picture. They are checked for the third time during the final fire test of the complete burner.

WHEN it bears the Century trademark, you know you're getting the best on the market—a product built to perform. As it goes along the assembly line, each individual part is submitted to a rigorous test, with accurate instruments catching even the slightest defect. Built with watchlike precision, no burner is shipped that fails to pass each of the tests that are devised to duplicate actual operating conditions in your home. In addition to these tests, each burner is placed in a regular furnace and fire tested. This is your guarantee of perfect performance from the very beginning.

Dealers who keep accurate cost records consistently report that the strong, substantial construction of Century equipment makes servicing easy and economical. Inquire about a profitable Century franchise soon.



MODEL "L" OIL BURNER

Domestic water units and boiler burner units have been temporarily discontinued from our line due to material shortages.

CENTURY

Engineering Corporation

CEDAR RAPIDS, IOWA

OIL BURNERS • BOILER-BURNER UNITS • WARM AIR FURNACES
HUMIDIFIERS • WATER HEATERS • AIR CONDITIONING

that the oilheating industry will cooperate along the requested lines.

But he then returned to his earlier statement about existing customers, with this sequence: "We have an obligation to our existing customers and I wish to emphasize again 'existing customers.' You should be very careful in the solicitation of any new business to make sure that your present supplier feels that he will be in a position to meet your requirements. If you do not have this assurance, you will be faced with a customer reaction problem."

Closing the convention was a particularly interesting address on "Sources of Fueloil" by Clyde B. Adams, geologist, Socony-Vacuum Oil Co., in which the audience was given an insight into some of the workings behind the huge distillate supply of present years, and pointed to future discovery and development methods.

◈

Dr. Theodore W. Evans was named manager of the Emeryville (Calif.) research laboratories, Shell Development Co., to succeed Walter J. Hund, deceased.

New York Edison Starts Heating Promotion

GAS PROMOTION FOR MORE heating and water heating sales will be launched May 1, by Consolidated Edison Co., New York, the only gas company in the area in position to take more heating customers. It is understood that the campaign, which is to use newspapers, will stress low cost of equipment and installation.

Company officials claim that gas conversion burners are plentiful in the area, due to the slow-down of construction over the country, and the consequent shipment of burners into the area. Company advertising claims it added 6,250 gas heating customers to its lines in 1946, most of them in Queens, Bronx and Westchester Counties. Residential gas sales went up 5.4% in 1946 for all household uses.

Announcement was made in Westchester County, April 23, that all gas appliance service after May 1 would be charged for at a minimum rate of $2.25 for the first half hour, and 75 cents for each quarter man-hour or fraction in excess of a half hour. The company is out of gas heating equipment sales, and is encouraging competition among its installing dealers to bring prices of equipment down.

Brig. Gen. E. F. Jeffe, vice-president in charge of Edison sales, is quoted as saying that one Cleveland concern has 9,000 conversion gas burners which are offered for New York installation at less than $250. Another major distributor is offering "a substantial stock of conversion gasburners" to the market, and still another offers 400 conversion burners "which at present we are unable to move."

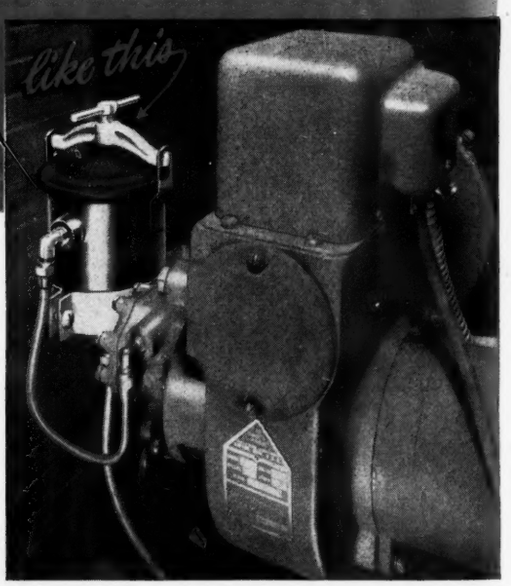
Consolidated Edison has made a survey of oilburner stocks in Westchester County which Gen. Jeffe says reveals 1,060 oilburners and boilers now available for installation and 1,700 more on order by dealers.

It is estimated that more than $2,000,000 worth of gas conversion equipment now is in the hands of New York dealers, and the company is attempting to move it, "before these dealers go broke." More is believed arriving in the area every day.

The General

CAN INCREASE YOUR SERVICE DOLLAR VOLUME WITH INSTALLATIONS

- Make profits on every installation.
- Eliminate troublesome call backs.
- Build regular repeat business through cartridge replacements.
- Help customers save money by giving cleaner burning fuel.
- Build goodwill and customer loyalty by providing trouble-free operation.



General HAS THE RIGHT FILTER FOR EVERY OIL HEATING PLANT!

The *General* is popular with all contractors, dealers and fuel oil service companies because it has proven the best fuel oil filter for heating plants, hot water heaters, and room heaters. The *General* will prove a profitable leader for you, too! Report after report in our files bear out these statements.

For average installations two models, Deluxe 2A-300 and Economy 1A-25, are outstanding leaders in the *General* line, because they are priced to sell easily, built to give long-lasting service, and designed to provide high-degree performance.

There is no better time than *now* in letting *General* Fuel Oil Filters increase your service dollar volume. Contact your jobber immediately or write direct for information and discounts.

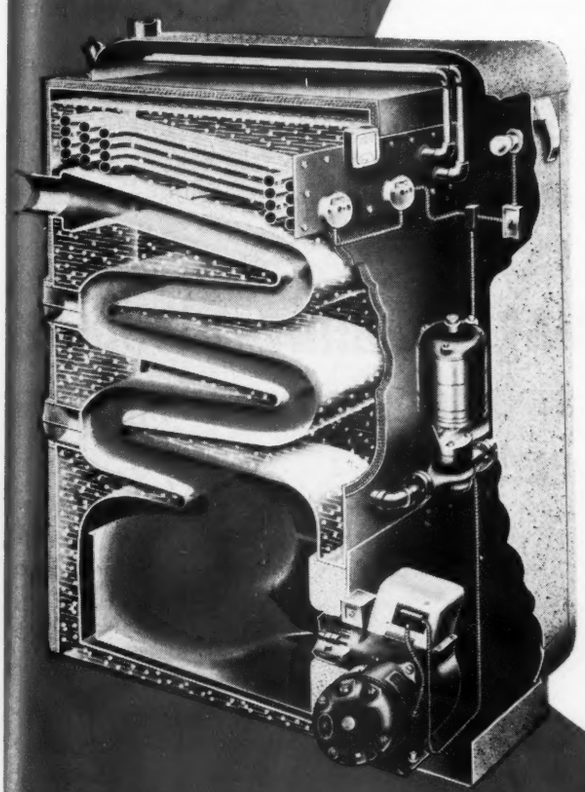
Listed: Re-examination Service, Underwriters Laboratories

GENERAL FILTERS INCORPORATED — GENERAL FUEL OIL FILTER — 12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: GENERAL FILTERS CANADA, 1227 ST. CLAIR • TORONTO, ONTARIO

KICK PRICE-RESISTANCE In the PANTS!

How PENN Streamlined Installations Squeeze Dollars from the Selling Price . . .



PENN *Packaged Heat* oil and gas fired units are manufactured in all capacities for residential installation.

. . . Feature PENN *Packaged Heat* and give price-resistance a kick in the pants! *Packaged Heat* sells for less than comparable units . . . yet not a thin dime of the reduction comes out of your profits. PENN economy-engineering streamlines away the costly, useless frills and gadgets . . . gives you *savings in installation expense* to pass along to customers.

For PENN *Packaged Heat* is the *only* automatic oil or gas fired boiler-burner unit that's delivered to you completely wired and with *all* parts and controls enclosed in the jacket. And —*plug this!*—when you install PENN *Packaged Heat* you also install year-round automatic hot water without the cost of a separate water heater. Hot water is supplied by a tank or tankless coil built into the *Packaged Heat* unit itself.

Feature PENN *Packaged Heat* to overcome consumer price-consciousness. Rely on PENN'S new, up-to-the-minute advertising aids. Write for information today.

Export Office
80 Broad Street
New York 4, N. Y.

Ontario Representative
R. G. Dibble Company
Toronto, Canada

Canadian Distributor
(exclusive of Ontario)
Actrite Equipment Company
768 St. Paul St., West, Montreal 3, Canada

PENN BOILER and BURNER MFG. CORP.

LANCASTER, PENNSYLVANIA

Radiant Heating Employs Electrically-Heated Ceilings

A NEW METHOD OF RADIANT HEATING, installed in a house, designed and built by Fonde Construction Co., Knoxville, Tenn., employs electrically-heated ceilings and has operated successfully since February. Electrified ceilings, developed by United States Rubber Co., contain a heating element of conductive rubber sandwiched between two layers of plastic. The entire ceiling in each room becomes warm, and is automatically controlled by a thermostat. The house selected for the test is a bungalow type, consisting of living room, bedroom, hall, dining room-kitchen, glass-enclosed porch and bath, all equipped with ceiling heat. The attached garage is unheated. The house is built without a basement and floors are made of concrete with a special surface as smooth as hardwood.

In designing the house, insulation was emphasized. Hollow cinder blocks filled with insulating material are used for walls and above the electrified ceilings are eight inches of rock wool insulation. Further economy in electrical consumption is achieved by utilizing sun heat, since the house has large windows facing south-southeast which admit the sun's rays between 9 A.M. and 4 P.M. During this period the ceiling heat automatically cuts off for intervals of 20 minutes.

Mr. Fonde estimates that the test house can be heated for $72 per year. Power rates in the Knoxville area are lower than in most sections of the country, but Mr. Fonde contends it is practical and economical to use electricity for heat provided the homes are properly designed and insulated to utilize this form of heat. The Knoxville house consumed 1960 kilowatt hours of electricity in twenty-four days from March 1 through March 24. Surface temperature of the ceiling itself remains at 110°, and room temperature hovers between 69° and 70°. On the coldest day of the year, with outside temperature at five above zero, engineers tested the capacity of the heating system and raised the room temperature to 80°.

Development of the electrified ceilings grew out of wartime research on conductive rubber by U. S. Rubber Co. Chemists transformed rubber from an insulator to an electrical conductor by adding high percentages of finely-ground carbon black. Panels developed for heating are four feet square, are installed in the conventional manner and can be painted or papered. Electricity is conducted to the edge of the panels by copper wire, but there is no wire in the heating areas.

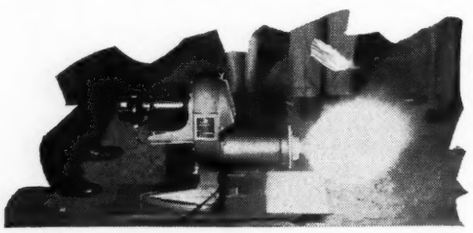
Conductive rubber heaters for room heaters, or inadequately heated parts of homes also are being developed.

◈

Fueloil Price Increases Less Than Average

USING 1940 AS A BASE, the cost of living index is up about 53% at present. Fuel-oil prices at retail levels are up an average of 41% in April, based upon New York and Chicago. The New York average for 1940 was 6.65¢ and the April 1947 price is 9.30¢. The Chicago average for 1940 was 6.69¢ and its April 1947 price is 9.50¢.

Gasoline has advanced more than fuel-oil. The average retail price, without taxes, in Chicago for 1940 was 11.33¢ and in April 1947 is 16.77¢, a rise of 48%. At New York the 1940 average price was



Beckett Commodore burns outdoors without aid of fire box — ignition cut off — retains normal flame.

Starting-Running-Stopping

...SUPERIOR OIL BURNER ENGINEERING PAYS OFF

Twenty-two outstanding features make Beckett Commodore a better buy for users—more profitable business for dealers. Users get efficient heating, amazing economy. Dealers find Beckett Commodore easier to install, service is kept at a minimum.

Unfortunately, there are not enough Beckett Commodores to satisfy current demands. That's because Beckett does not compromise quality in materials or short-cut workmanship. Burners are complete—have actual fire test before shipment. Superior engineering—honest manufacturing—is good business.

For homes—churches—schools—apartments—business buildings—special applications.

IMPORTANT INSTALLATION & SERVICE FEATURES

- Progressive air rotation — positive air delivery make cleaner, hotter, quieter fires.
- More dependable ignition.
- Lower nozzle temperature.
- Automatic damper control saves fuel.
- High tension cable eliminated.
- All rotating parts dynamically balanced.
- Motor and pump shafts accurately aligned.
- Four main assemblies, accessible, special tools not needed.
- Easy installation and adjustments—tamper-proof.
- Operates over wide range of oil rates.
- Finger-tip air control — tamper-proof.

R. W. BECKETT Engineering Company

——Commodore—————ELYRIA, OHIO

A GREAT FURNACE FOR ANY JOB REQUIRING UP TO 70,000 B.T.U.

EVANS *Automatic*
OIL-BURNING
GRAVITY FURNACE

Here's an amazingly compact gravity furnace simply designed, superbly engineered and quality-built by EVANS. It comes complete in only two packages. One man can easily and quickly assemble and hook it up with the duct work. Connect to oil and electricity—and it's ready to go.

Rated 70,000 B.T.U. it performs efficiently at low cost—insuring customer satisfaction. It's a honey to look at, too, with handsome Corsican Red cabinet. Simple pot-type burner with hi-lo flame—completely automatic in operation even to draft regulator assuring all-weather combustion efficiency. Nothing to go wrong. You can practically forget service. Write now for literature.

SELL EVANS FOR AMERICA'S LOWEST-COST AUTOMATIC HOT WATER

There's a growing public demand for lower-cost automatic hot water. EVANS meets that demand squarely with 20, 30 and 45-gallon capacity oil-burning hot water heaters. Cheapest fuel! Clean! Silent! Odorless! Completely automatic! Needs no gas or electric connection! They're white enamel beauties just right for homes, beauty parlors, medical offices, etc. Fully approved. Literature is yours for the asking.

Heating and Appliance Division

EVANS PRODUCTS COMPANY

PLYMOUTH, MICHIGAN

EVANS

fuel oil & oil heat

10.86¢ and the April 1947 price is 17.50¢, up 61%.

If fueloil prices were to parallel the cost of living rise, the average New York-Chicago price would be about 10.20¢, and there is reason to believe that before many months it may line up with the cost of living index.

◈

Scientists Studying "Hot-Cold Pipe"

A "HOT-COLD PIPE," 15 inches long and 1 inch in diameter that converts ordinary compressed air into both hot and cold air without the aid of moving parts has been built by Westinghouse Research Engineers. As yet scientists can offer no explanation, but it is thought that frictional effect between gases moving at different velocities may cause the phenomenon. A working model has been made to study the principle involved.

With the original tube, 3/10 inch in diameter, developed by R. Hilsh, its German inventor, simultaneous jets at 154° F. and 10° F. were reported. The present model gives a temperature difference of only a few degrees Fahrenheit, because it has been purposely constructed larger in diameter to expedite instrumentation for scientific study.

In operation, compressed air is pumped into a nozzle at one end of the pipe, where it strikes the inner wall of the pipe tangenital to the diameter and is converted into a whirlpool of spinning gases. The air in the center becomes cold almost instantly, while that on the periphery gets warm. Cold air is drawn off through a ¼ inch opening at the center of one end of the working model constructed by Westinghouse, and warm air is tapped from the periphery.

Commercial application is ruled out at this time because of low efficiency, but even now the "hot-cold pipe" holds promise as a handy laboratory tool for making cold as simply as a Bunsen burner makes heat.

◈

NYOHA Directory And Handbook for 1947

A 1947 DIRECTORY AND HANDBOOK, issued by New York Oil Heating Association, Inc., Long Island City 1, N. Y., is a 324 page lithographed publication, containing advertising of member and non-member companies. Advertising occupies the first portion of the book, in which section have been inserted tables and charts of practical data arranged for ready reference.

A major portion of the information section reproduces in full the oilburner rules for New York City and text of the Sharkey license bill for New York City oilburner installers. Officers, directors and committees of the Association are listed, along with a complete roster of company members and voting representatives. A classified index of advertisers provides a directory of concerns by products advertised. Space for a daily diary and memoranda is provided.

◈

U. S. Department of Labor Fueloil Prices January

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations

REPRESENTING

GENERAL FUEL OIL FILTERS

3 POPULAR FILTERS FOR *ALL* OIL BURNERS

DEALERS:

BUY AND TRY JUST ONE OF THE *NEW* MODEL 2A700 GENERAL FILTERS AND WE PROMISE YOU —

YOU'LL *NEVER* USE ANY OTHER MAKE FILTER AFTERWARDS

See Manufacturer's Advertisement Elsewhere in This Magazine

DEALERS

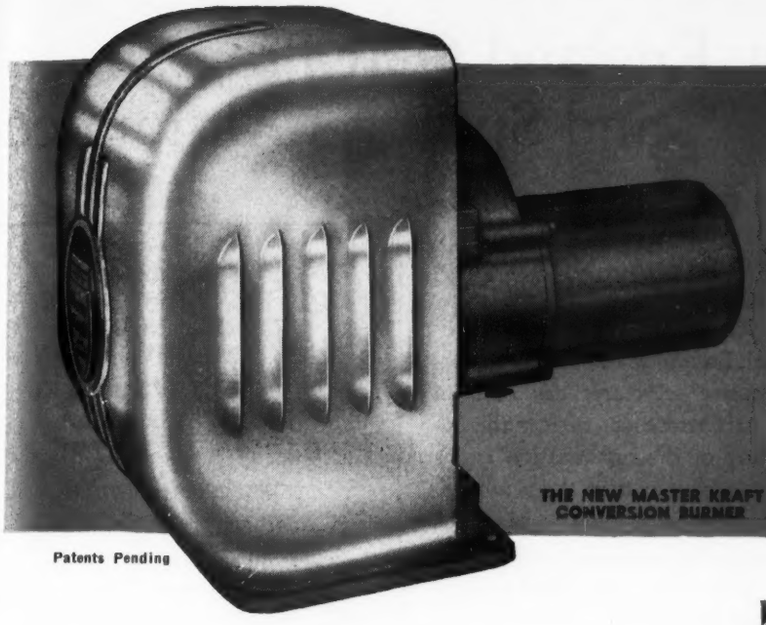
—Ask us to mail you one sample of the New Exceptional Model 2A700 C.O.D. for your quick inspection—for quantities—see your Jobber—

William J. Gebler and Sons

Automatic Heat Devices

EASTERN FACTORY REPRESENTATIVES

619 Acorn Street, Phila. 28, Pa. 790 Broad St., Newark 2, N. J. 1284 Beacon St., Brookline 46, Mass.



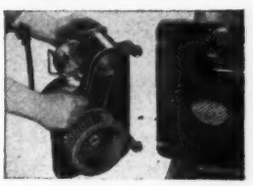
Patents Pending

YOU CAN SERVICE THIS NEW BURNER IN 2 MINUTES

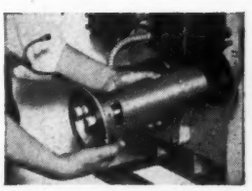
THE NEW MASTER KRAFT CONVERSION BURNER

Change the pump—motor or transformer in 2 minutes—remove the combustion head in 1 minute and 30 seconds. *That's real Quick-Change!* No need to spend hours in your customer's basement—do the repair work in your own shop. Eliminate the time element and guesswork on service calls.

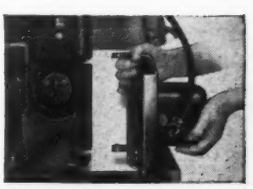
This marvelous new burner will be ready to roll off our production lines *as soon as materials are available.*



Pull two pins and remove the service unit, replace it with a new one. The *entire quick-change takes only two minutes!*



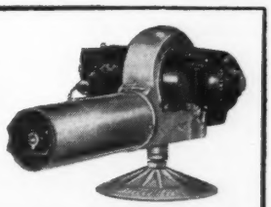
The entire combustion head may be quickly withdrawn for inspection or servicing in *one minute and thirty seconds.*



The transformer can be replaced with a *new one in two minutes* with this QUICK, EASY, SIMPLIFIED SERVICE.

Meantime

MEANTIME we are continuing to manufacture our popular pre-war type of burner, the well-known Master Kraft—Models T thru M2 (Model K shown at right).



Master Kraft

OIL HEAT

HARVEY-WHIPPLE, INC.

SPRINGFIELD 1 MASSACHUSETTS

Harvey-Whipple, Inc.
Dept. FO-11
Springfield, Mass.

Gentlemen:

Please send me details on a MASTER KRAFT Franchise.

Name .....

Street ..... State .....

City .....

fueloil & oil heat

from various supplies in each market, the prices are averaged and published. Those in the table that follow were taken January 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	10.40	10.28	8.80	..
Bridgeport	10.28	10.13	8.70	..
Fall River	..	..	9.37	..
Manchester	11.40	10.90	9.56	..
New Haven	..	..	8.47	..
Portland, Me.	10.30	10.30	8.80	..
Providence	..	10.05	8.80	..
Buffalo	11.55	..	10.43	10.50
Newark	9.95	9.95	8.62	..
*New York	..	9.95	8.62	..
Philadelphia	..	10.06	8.61	..
Rochester	..	11.40	10.10	..
*Chicago	10.04	9.69	9.18	9.22
**Cleveland	..	..	..	..
**Detroit	..	9.78	9.27	8.76
Des Moines	..	9.63	9.10	9.10
Kansas City	..	9.06	8.60	7.98
Milwaukee	..	10.10	9.60	9.60
Minneapolis	10.20	10.20	9.50	9.50
Omaha	..	9.50	9.00	9.00
St. Louis	..	..	..	..
St. Paul	10.20	10.20	9.50	9.50
Baltimore	..	9.70	8.90	..
Norfolk	..	9.90	8.70	8.70
Richmond	..	10.20	8.90	..
Washington	..	10.20	9.30	..
Charleston, S. C.	..	12.70	10.90	8.90
Jacksonville	..	10.70	8.90	..
Savannah	..	11.10	9.90	..
**New Orleans	..	10.58	9.27	9.28
Portland, Ore.	..	9.80	8.30	4.76
***San Francisco	..	9.31	7.75	4.51
**Seattle	..	10.52	8.93	5.16

*Price includes 2% sales tax.
**Price includes 3% sales tax.
***Price includes 2½% sales tax.

N. J. Standard Profit, Output and Sales Gain

THE ANNUAL REPORT issued by Standard Oil Co. of N. J. revealed 1946 consolidated net earnings of $177,610,000, compared with a profit of $154,156,000 in 1945. In 1947 even larger capital expenditures are contemplated for expansion, improvement and acquisitions than in 1946 when $278,789,000 was required.

Jersey's gross world-wide production of crude oil averaged 1,091,000 barrels daily, foreign affiliates accounting for more than 60 percent of the total, an increase of 15.7 per cent, while production for domestic affiliates increased to 429,000 barrels per day, up 1.4 per cent. Domestic refinery runs averaged 629,000 barrels daily, up 3.8 per cent, foreign runs totalled 369,000 a day, total daily refinery runs was up 7 per cent to 1,198,000 barrels.

New England OHI Program and Speakers Announced

PLANS HAVE BEEN ANNOUNCED for an instructive two-day annual convention session for Oil Heat Institute of New England, May 20 and 21 at the Copley Plaza Hotel, Boston, Mass. Fred N. Beckwith, executive secretary, has been in charge of arrangements. Besides the annual meeting of the organization and a directors' meeting, most of the activity is centered in a luncheon and two banquets.

The annual meeting will be held at 3:00 p.m. May 20, to hear the report of the president and secretary and treasurer. The meeting also will elect directors to replace those whose terms are expiring.

In the evening President Francis Gilbane will preside at a banquet for the employees of the New England dealers. Principal speaker of the evening will be Strickland Gillilan, who is billed as America's Favorite Humorist.

Mr. Gillilan has been called by Bruce Barton the best after-dinner speaker in America. He is known and knows many of the more important people in the country, and most of them call him "Strick." He is the author of the famous Irish classic, "off again, on again, gone again, Finnigin." His talks are humorous and optimistic.

Directors of the Institute will hold the first meeting of the new Board at 10:00 a.m., May 21, to get the secretary's report, adopt a budget and elect officers.

Dr. James F. Bender

Luncheon Speaker

At noon an industry meeting and luncheon will be presided over by Harold W. Loveren, and the new president will be introduced. The principal speaker at this meeting will be Dr. James F. Bender, founder and director of the National Institute for Human Relations in New York. He is a certified psychologist of the New York State Department of Mental Hygiene and a member of the New York State Association of Applied Psychology.

A prolific writer, Dr. Bender has authored more than 250 articles for leading popular publications—he is a regular contributor to the *New York Times Magazine*—and has been interviewed on the radio many times. He is the author of the National Broadcasting Company's Handbook of Pronunciation. He has written more than two dozen scholarly articles, nine of them for the Encyclopedia of Education. His Book, "Personality Structure of Stuttering" is a standard reference in its field. His syndicated column, "How to Get Along With Others," is best known among business and industrial leaders. This timely and pertinent service is supplied to more than fifty house organs of various business concerns.

The Annual Banquet will be held at 6:30, May 21, with Russell F. Swett as

Program
OIL HEAT INSTITUTE OF NEW ENGLAND ANNUAL CONVENTION
COPLEY PLAZA HOTEL
BOSTON, MASS.
May 20th & 21st, 1947

TUESDAY, MAY 20TH

3:00 P.M. *Annual Meeting*
Report of the President
Report of the Secretary-Treasurer
Election of Directors

6:30 P.M. *Employees' Banquet*
Chairman: President Francis Gilbane
Principal Speaker: Strickland Gillilan

WEDNESDAY, MAY 21ST

10:00 A.M. *Directors' Meeting*
Submission of Secretary-Treasurer's Report
Annual Budget
Election of Officers

12:30 Noon. *Industry Luncheon*
Chairman: Harold W. Loveren
Introduction of new President
Speaker: Dr. James F. Bender

6:30 P.M. *Annual Banquet*
Chairman: President Russell F. Swett
Toastmaster: Harry Pope
Principal Speaker: Ex-Gov. George H. Earle, who will discuss the Russian problem.

GULF FUEL OIL

for home heating

GULF OIL CORP.-GULF REFINING CO.

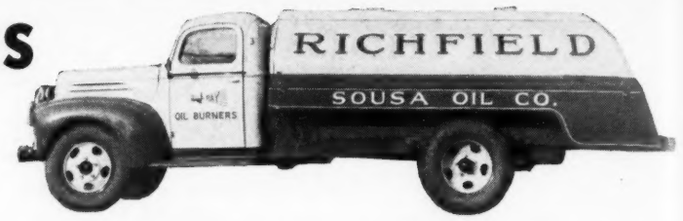
Division Sales Offices:

BOSTON • NEW YORK • PHILADELPHIA • PITTSBURGH • ATLANTA
NEW ORLEANS • HOUSTON • LOUISVILLE • TOLEDO

fuel oil & oil heat

ROBINSON TANKS

Streamlined—Dependable—Economical



Robinson Tanks give you your "money's worth" in long life. They are made to cut your handling costs. They are streamlined to make a good impression on your customers and your community.

Consult us on your truck tank problems.

A. F. ROBINSON BOILER WORKS, INC.

(TROwbridge 1776)

EAST CAMBRIDGE, MASSACHUSETTS

chairman, and Harry Pope as toastmaster. The speaker of the evening will be Ex-Governor George H. Earle of Pennsylvania, who will discuss the Russian problem.

Mr. Earle has been in most of the hotter spots in Europe in recent years. He

Ex-Gov. George H. Earle

Banquet Speaker

was named by President Roosevelt in 1933 as Envoy Extraordinary and Minister Plenipotentiary to Austria, and later Minister to Bulgaria and to other diplomatic posts in the Balkan and Mediterranean area throughout the war. Much of the time he was personal representative and observer for the President. He concluded his service with a Naval assignment to Samoa in 1945.

Distillate Burner Group Names 1947 Officers

AT ITS REGULAR MEETING, held in Boston on February 19, the Distillate Burner Manufacturers Association named E. C. Leach, president. W. G. Chapman and J. W. Meyer, Jr., were elected first and second vice presidents, respectively; E. T. Isaac, treasurer and H. R. Singleton, secretary. After routine business had been disposed of, a clock and barometer desk set was presented to Henry H. Morse in appreciation for his long service to the Association and on the occasion of his recent retirement from Florence Stove Co. and as Association secretary.

Drivers Rewarded For Safe Driving Records

EIGHT DRIVERS for Young's Motor Truck Service, Taunton, Mass., were presented with safety awards for accident-free driving records for varying periods of time at a dinner held in Taunton, April 12. The occasion was a tribute to Curtis H. Young, founder and owner of the company, tendered by his employees and men prominent in the oil trucking industry.

In the past year, Young's 23 tractors and 28 oil trailers hauled 43 million gallons of fueloil and travelled 575,000 miles.

Leone Features Filtered Oil In Newspaper Advertisements

JOSEPH A. LEONE, proprietor of J. A. Leone & Sons, Lawrence, Mass., oilheating dealer, has carried newspaper space recently featuring filtered oil service to the firm's customers. A filtering system made by Warner Lewis Co., Tulsa, Okla., has been installed at the company's bulk rack to remove water, rust and sludge as trucks are loaded. The filter company has reprinted the newspaper advertising for distribution to the trade.

Joseph A. Leone, Jr., is service and installation manager for the company and John R. Leone is manager of fueloil delivery. They are Timken dealers in the area. Bulk storage is buried, and the loading rack is sheltered and heated.

A PIPE LINE TO CASH!

The Lexington Plan—based on twenty years of experience in the fuel oil industry—has proved its value in building additional profits by:

(1) Supplying funds for prompt payment of obligations and discounting of bills.

(2) Enabling you to take advantage of money-saving, spot buying opportunities.

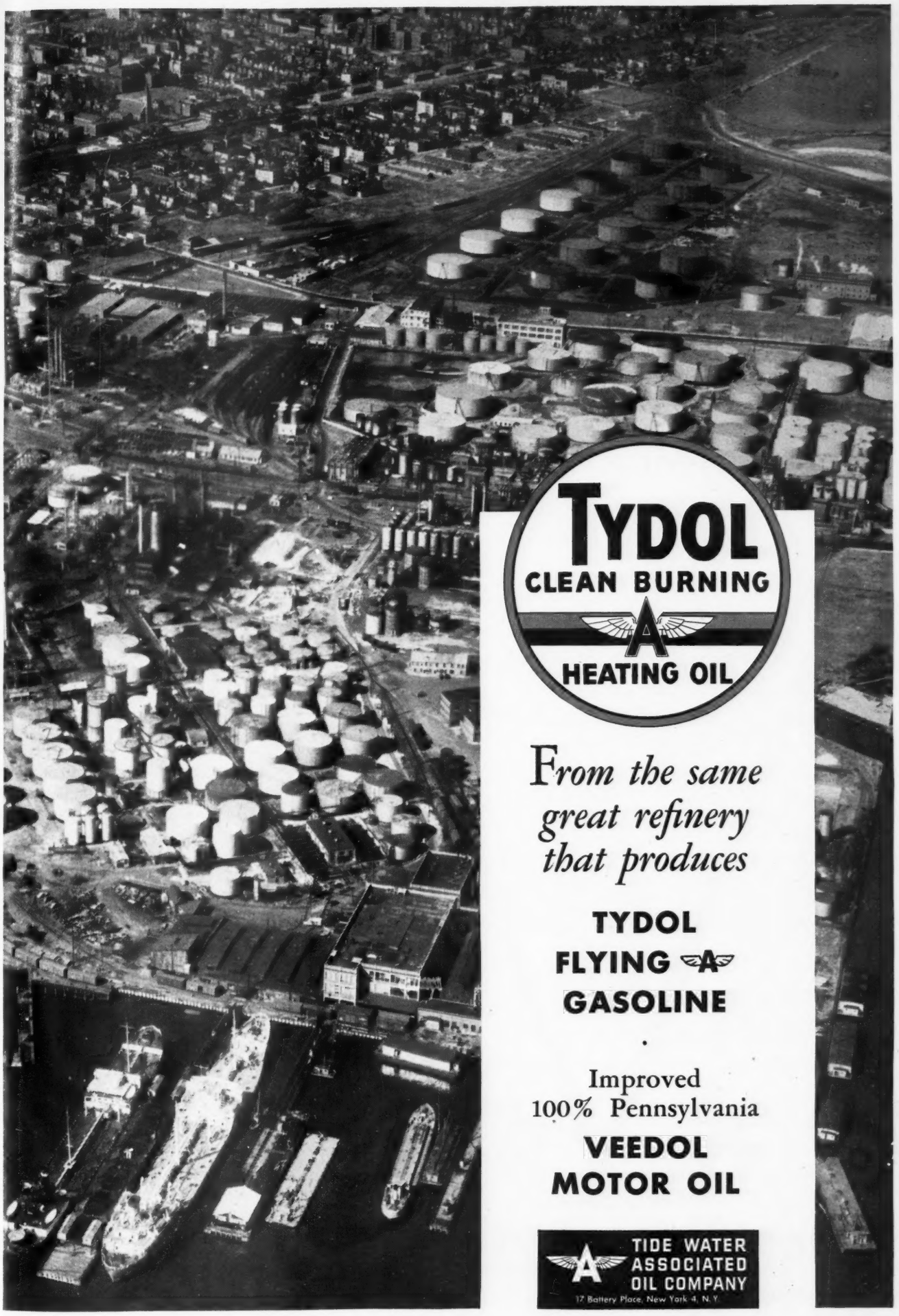
For financing that pays its own way, write us, suggesting a definite time when we can talk it over—without obligation.

LEXINGTON CORPORATION

All Forms of Financing for Fuel Dealers

M. S. LURIO, *Treas.*

10 Milk St. **Liberty 6878** **Boston 9, Mass.**



TYDOL
CLEAN BURNING
HEATING OIL

From the same great refinery that produces

TYDOL
FLYING A
GASOLINE

•

Improved
100% Pennsylvania
VEEDOL
MOTOR OIL

TIDE WATER
ASSOCIATED
OIL COMPANY
17 Battery Place, New York 4, N.Y.

fuelfoil & oil heat

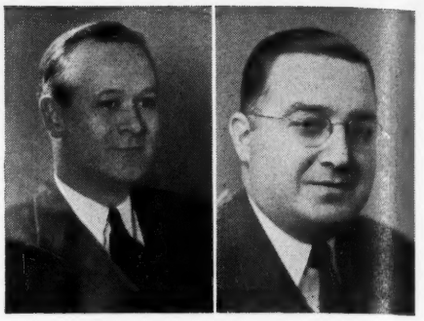
Manufacturers Activities

Form Distributing Company For Quaker Units, Burners

COMFORT EQUIPMENT CORP., Chicago, Ill., has been formed to act as exclusive sales agents for the United States for the Quaker vaporizing conversion oilburners and forced warm air furnace units. Officers of the new firm are: John M. McClintock, pres.; James R. Scott, vice president and general manager; Michael L. Lavorgna, secretary and general sales manager and George W. Graham, treasurer.

Mr. Scott has been assistant to the President, L. J. Mueller Furnace Co., Milwaukee, Wis. for the last seven years, and Mr. Lavorgna was Mueller's district sales manager for the past ten and a half years. Both are well known and experienced in the heating industry.

Available now is a conversion burner with a capacity of .7 gph, and a burner with a 1 gph capacity is planned for later in the year. Hi-Boy or utility room, and basement type furnace units are rated at 70,000 Btu.



Scott Lavorgna

Comfort Equipment plans to incorporate in its national selling activities a line of products applicable to all phases of indoor comfort.

TAKE A MONARCH "TIP"-- AND COMPARE RESULTS!

Most any nozzle will produce some kind of a fire, but —until you have tried Monarch Stainless Steel Nozzles (of a type with spray characteristics matched to your air mixing equipment) you won't know how good they really should be. State make of burner and sketch or accurately describe air mixing head and make test *yourself* with the series Monarch Nozzles we recommend.

Pulsation: We can usually suggest a remedy. Give full details of burner and the job.

Air Cones & Stabilizers

Dealers: It may cost you money if you don't use Monarch stabilizing equipment in combination with Monarch Nozzles for repair work. Their use in combination is really your assurance of satisfactory performance, because every size and style has been thoroughly fire tested in laboratory or field over a period of many years. Eliminate guess work. Use tried and tested equipment.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.

Write for Catalog D

MONARCH MFG. WORKS, INC.

EAST WESTMORELAND AND SALMON STS.

PHILADELPHIA 34 PENNA.

Olsen Starts Production Of Fueloil Storage Tanks

ANNOUNCEMENT HAS BEEN MADE by C. A. Olsen Mfg. Co., Elyria, Ohio, manufacturers of Luxaire heating and air conditioning equipment, that production has begun on 275 gallon fueloil storage tanks. Tanks are being constructed of heavy gauge steel, all seams arc welded by a new method of authoatic, submerged arc welding.

Coleman Heating Clinics; New Plant Purchased

HEATING CLINICS for sales and service managers of firms distributing oilfired space heaters, automatic water heaters, gas and oil floor furnaces, products of Coleman Co., Inc., Wichita 1, Kan., are being sponsored at company headquarters.

J. D. Eckles, director of the educational program, plans to continue the clinics throughout the Spring and Summer months. In special classrooms and laboratories, multiple installations of heating appliances have provided actual experience in trouble-shooting and servicing. Don Magliano, Jack Thuma, Birdett Dwyer, Coleman Major Appliance Service Div., and Herschel Houston and E. G. Johnson, Coleman Sales Engineering Dept., assist Mr. Eckles.

After completing the course, trainees are qualified to conduct heating clinics for retail dealers.

Coleman Co., at the same time, has expanded its Wichita production facilities through the purchase of the Culver aircraft factory, adding nearly three acres to

Let's look into your FUTURE COMFORT

In planning a new home or remodeling an old one—perhaps nothing deserves more attention than the heating and hot water system. An efficient trouble-free boiler means comfort—and plenty of hot water the year around. A half century of know-how is built into every Spencer unit . . . your assurance of dependability, carefree performance and customer satisfaction.

No matter what the job—small home or largest commercial establishment—there's a Spencer for every type building . . . for every firing method. Write or wire today for a catalog . . . also for the name of the Spencer Heating consultant nearest you.

Division—Avco Manufacturing Corp.,
Dept. FF-4, Williamsport, Pa.

SPENCER HEATER

fueloil & oil heat

their present factory. According to Sheldon Coleman, executive vice president, work of equipping the factory is under way and it is hoped to have it in operation this year.

Reduce Prices Of Paragon Oilburners

A LETTER sent to all dealers of Paragon Oil Burner Corp., Brooklyn 22, N. Y., announced a price reduction to dealers of 10% on the complete line of Paragon oilburners. The reduction took effect on April 25.

Products Section to Handle G. E. Parts and Components

ESTABLISHMENT of a Products Section to handle parts and components of the products of the Air Conditioning Department, General Electric Co., Bloomfield, N. J., has been announced by G. R. Prout, vice president and general manager.

At Fort Wayne, Ind., W. S. Mersman will manage the Section, handling procurement, warehousing, marketing and shipping of renewal parts. The Bloomfield Section will be divided two branches, with J. H. Wood in charge of sales, cataloging, pricing and customer service, and G. A. Richardson supervising procurement, stock control, warehousing and shipping, and responsible for repair and return material for his Section.

Sid Harvey Establishes Branch In New Rochelle

TO MEET AN INSISTENT DEMAND for a local pick-up point in Westchester County for the exchange of rebuilt pumps, transformers, controls, and motors, as well as oilburner repair and installation parts, Sid Harvey, Inc., Valley Stream, N. Y., on April 28 opened a branch in New Rochelle, according to Sid Harvey, president. Other branches are in operation at Philadelphia, Newark, N. J. and Boston.

Jack Deyo, who started in the sales department of Sid Harvey, Inc. in 1938, and returned after service in the Army to manage local sales, has been appointed branch manager at New Rochelle. Bob Bernard, of the sales department and a returned veteran also, is assisting him.

Gulf Oil Reports Record Sales in 1946

RECORD SALES both in dollars and barrels were handled by Gulf Oil Corporation, according to the annual report. The company earned $58,283,830 last year on $562,241,107 of sales. It was pointed out that these earnings were possible by the reinvestment of earnings of former years.

Though earnings were equal to $6.42 a share, total taxes paid were equivalent to $17.02 per share. Dividends paid stockholders last year were $2.50 per share.

Brown Electric Cuts Prices

A REDUCTION IN PRICES on Brown ignition transformers and three phase motors has been announced by A. Brown, president, Brown Electric Co., Forest Hills, N. Y. Mr. Brown, in making the announcement, stated that the reduction is an initial step to conform to the present national policy of price reductions.

DEALERS—for FUTURE profits
get lined up *Now* with KRESKY

FLOOR FURNACES · OIL BURNERS · FORCED AIR FURNACES · WATER HEATERS · RANGE BURNERS

Listed by Underwriters' Laboratories, Inc. To Burn No. 3 Oil (Diesel) or lighter

Wise dealers see in today's shortages the handwriting on the wall of tomorrow's profits. That's why so many are lining up now with Kresky, seeing in today's unprecedented demand a promise for future opportunity. ★ Always a money maker for dealers due to its versatility and adaptability to a wide list of uses, the Kresky line includes Conversion Burners, Range Burners, Floor Furnaces, Water Heaters and Forced Air Units for small homes. ★ Delivery only to old customers now, but inquiries are invited from live dealers with an eye to the future.

KRESKY MANUFACTURING COMPANY
Pioneers in Oil Burning Equipment Since 1910
PETALUMA, CALIFORNIA

Kresky Oil BURNERS

put yourself in the driver's seat

Then You'll Want

NEW Pittsburgh Meters

On Your Trucks

Take the wheel of a non-metered truck over a typical delivery route.

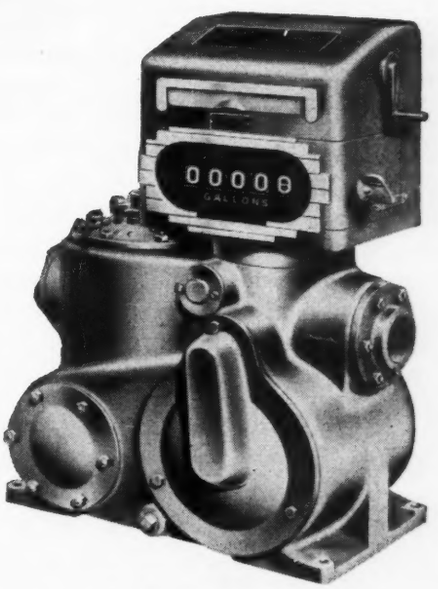
Here's Jones! His tank will take a full compartment . . . plus! Will you sell this plus? Probably not, if it involves back-breaking bucketing.

And the Smiths—there's no one at home. You don't dare make a drop here until someone's around to check the delivery—so you'll have to call back.

Now to the Browns! He's a stickler for accuracy. Stands there and counts while you tote and dump buckets into his tank.

By now you've probably got the idea there's merit in this metered delivery system . . . and your driver-salesmen will agree. For metered trucks speed deliveries, accurately account for every gallon, stop shortages and overages, eliminate disputes with customers. Printed delivery slips verify gallonage; permit making drops even when the customer is away.

When you buy truck meters, buy the best—buy the new streamlined Pittsburgh with its exclusive advantages of sustained accuracy, light weight, and compact dimensions. Write for bulletin OG-200



Pittsburgh Rotocycle Tank Truck Meter
Model A—with Printing Register
Capacity 50 gpm Weight only 80 lb

WITH PITTSBURGH TANK TRUCK METERS
You get
ALL THESE ADVANTAGES

- EXACT ACCOUNTING
- FASTER DELIVERIES
- SATISFIED CUSTOMERS
- PRINTED RECORDS
- AUTOMATIC SHUT-OFF VALVE

plus *A lightweight, compact meter installation that saves space, permits hauling greater payloads.*

PETROLEUM METERS & ACCESSORIES

PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING COMPANY · PITTSBURGH 8, PA.
Atlanta Boston Chicago Houston Kansas City
Los Angeles New York Pittsburgh San Francisco Seattle Tulsa

Expansion of Mobilheat Lab Completed in Brooklyn, N. Y.

AN EXPANSION PROGRAM, utilizing twice as much floor space and additional new equipment at its Brooklyn Mobilheat laboratory for home heating, has been completed by Socony-Vacuum Oil Co., Inc., New York 4, N. Y. New laboratory equipment includes latest types of self-contained room heating and pot-burner units, as well as several post-war models of boiler-burner and furnace-burner units.

Company officials point out that the laboratory is now equipped to study practically any home heating problem involving oil, and is housed in a separate building which permits still further expansion as more and newer types of oilheating equipment are developed.

Manufacturer for Breese Burners Named in East

EXCLUSIVE MANUFACTURING RIGHTS for Breese burners for the eastern area of the United States have been assumed by Boston Machine Works, Lynn, Mass. The agreement provides also for sales rights for the United States and Alaska, excepting the state of Oregon and Washington.

Ralp L. Dennis, sales manager of the Oil Heating Supplies Div., Boston Machine Works, announces the appointment of I. M. Nelson to be in charge of sales distribution of Breese burners. Mr. Nelson, past vice-president of the American Oil Burner Association and past president of the Philadelphia chapter, AOBA, will contact and service Breese distributors. Merchandising of burners will be handled by present national distribution outlets of Boston Machine Works.

Todd Division Moves To Elmhurst Factory

THE ENTIRE FACILITIES of the Combustion Equipment Division of Todd Shipyards Corporation, including machine shops, assembly shops, stores, service department, engineering department, drafting room and offices moved May 1 from New York City, to a modern plant and office building at 81-16—45th Avenue, Elmhurst, Queens, New York.

This new building, located for efficient manufacture, transportation and convenience of personnel, comprises a large single story manufacturing plant integral with a spacious three-story office and stores building.

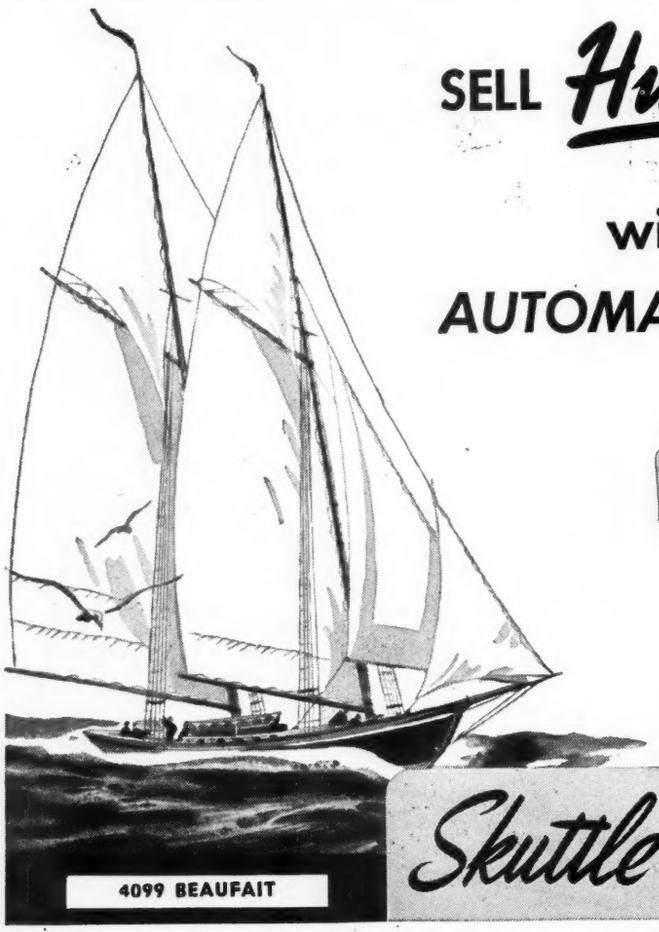
Work Begun On Torrance, Cal. Plant

GROUND BREAKING CEREMONIES were held recently at the site of the new Torrance, Cal. plant of American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa. The plant, first major step in the company's post-war expansion plans will have 497,000 sq. ft. of floor space, will employ 600 people and is expected to be in production within six months. Vitreous china plumbing fixtures will be manufactured.

Southern Outlet to Distribute Mueller Line

MAXWELL BROTHERS SUPPLY CO., New Orleans, La., are functioning as distributors for the complete line of Climatrol heating and air conditioning, produced by L. J. Mueller Furnace Co., Milwaukee, Wis.

Headed by L. R. Maxwell, the company will operate in Louisiana, southern Mississippi, Alabama and southern Arkansas.



SELL *Humidified Air* with the *Skuttle* AUTOMATIC HUMIDIFIERS

SERIES 300

Furnace manufacturers and dealers who recognize the importance of moisture in the home, find the Skuttle Model 300 Series Automatic Humidifiers ideal for any type or size of home. It features the adjustable rear support, adjustable collar, large inspection door and a size range from 18″ to 30″.

SEE YOUR LOCAL JOBBER OR WRITE FOR STATE LISTINGS AND THE COMPLETE SKUTTLE STORY

Skuttle Mfg. Co.

4099 BEAUFAIT

DETROIT 7, MICH.

*Formerly manufactured by us as MARINE OIL BURNER.

LEADING THE PARADE OF DEALER PROFITS

Your Customers Like Them . . . Marine Can Supply Them. This combination means profits for you,—PROFITS NOW. Ross Oil Burner assures you of prompt delivery, protected franchise, and a burner that sells.

We want dealers . . . the public wants burners. You can sell . . . we can deliver. Write us about the valuable franchises available for ROSS OIL BURNERS.

ECONOMY

Efficient mixture of oil and air burned in cylindrical fire pattern delivers more heat from less oil. Easily serviced.

SILENCE

Balanced one-piece fan. Firm level support of adjustable base and precision construction wipe out vibration and noise.

LONG LIFE

Extensive use of one-piece cast aluminum, sound design, quality parts and sound craftsmanship assure long trouble-free life.

The Public Wants these Features—ROSS OIL BURNER has them.
Depend on the Production Leader of 1946 to Supply You This Season

MARINE
MANUFACTURING COMPANY
214 West Ontario Street
Chicago 10, Illinois
TELEPHONE WHITEHALL 6626

MARINE MANUFACTURING COMPANY
214 West Ontario Street
Chicago 10, Illinois

I want to know all about the ROSS OIL BURNER Profitable Dealer Franchise. Please send complete details, with no obligation.

Name .....

Address .....

City .....Zone....State.....

fueloil & oil heat

U. S. Radiator Sales Reach New High

SALES FOR THE FISCAL YEAR ended January 31, 1947, reported by United States Radiator Corp., Detroit, Mich., totalled $17,970,000, the highest in the corporation's history, comparing with $11,606,000 in 1945. Net earnings amounted to $1,193,694, after all charges including a $760,000 provision for federal taxes, equalling $4.62 a share on common stock. Net profit during 1945 amounted to $261,325, or 59¢ a share.

Wesley J. Peoples, president, has revealed that due to expansion in the company's operations, the Directors have approved the sale of 71,429 shares of common stock at $14 a share to a group for investment. The sale was submitted to stockholders on April 30 for approval.

Sentry Gauge Names Canadian Distributor

CHESTER & PRICE, Winnipeg, Manitoba, Canada, has been appointed by Krueger Sentry Gauge Co., Green Bay, Wis., to handle its line of liquid level gauges and draft regulators. The outlet will cover the provinces of Manitoba, Saskatchewan and Alberta, including Port Arthur and Fort William in western Ontario.

Combined Fan and Limit Warm Air Control

CATALOG NO. AF500 is the designation of a new combined fan and limit warm air control, announced by Sampsel Time Control, Inc., Spring Valley, Ill. The control functions as both a temperature limiting control and a blower temperature operating control. If conditions require it, both limit and fan circuits can be wired as reverse acting controls. Electrical rating is ½ hp, 115 volts, A.C.; type RI motor, 15 amperes-115 volts, 7 amperes-230 volts, A.C. Limit settings are adjustable from 100° to 375° F., and fan settings can be varied from 100° to 300° F.

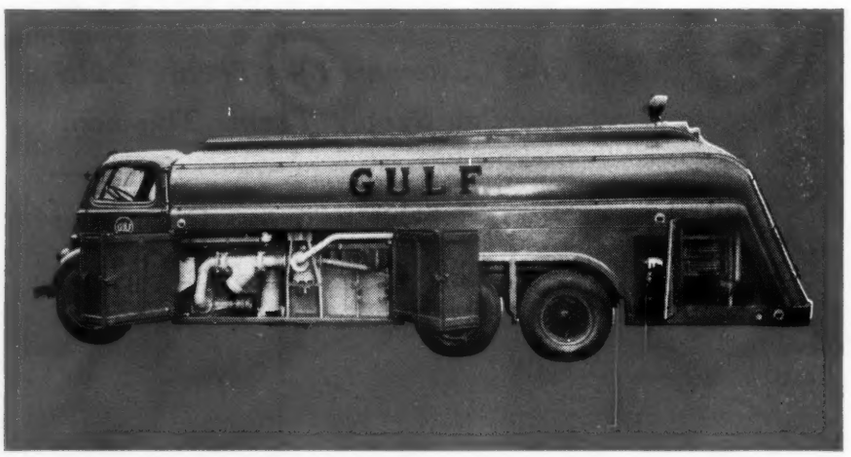
Offers Humidifier Guide

CLEVELAND HUMIDIFIER CO., Cleveland 3, Ohio, is offering a Capacity Indicator which considers conditions, such as type and size of heating unit, fuel and weather stripping, to estimate humidity requirements on any heating job. It determines the area of pan water surface or number of absorbent Monite plates required. The guide will be sent free on request.

Iron Fireman Issues Annual Report for 1946

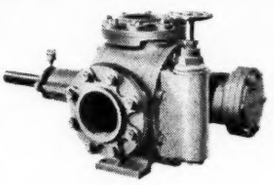
A TWENTY-FOUR PAGE REPORT, well illustrated with pictures of manufacturing facilities, production and assembly lines, has been distributed by Iron Fireman Mfg. Co., Portland, Oregon. Balance sheets and operating statements are for the year 1946 and show total sales of $11,515,823.65, with a net profit after taxes of $769,102.46, 6.6 per cent of sales.

The company has expanded its line to include gas furnaces and burners, conversion oilburners, domestic, commercial and industrial stokers, commercial-industrial oilburners and a complete line of automatic heat control instruments. Commenting on the expansion, C. T. Burg, vice president in charge of sales, pointed out to an Iron Fireman sales conference held at Cleveland, Ohio, that a 100 per cent sales increase was possible. "We do not expect gas or oil, however, to replace coal stokers," Mr. Burg concluded.



TRI-ROTOR PUMPS

Handle Gulf Oil Corp. Products



TRI-ROTOR PUMPS, combining the high volumetric efficiency of the rotary pump with the positive handling characteristics of a piston pump, have been selected by Gulf Oil Corp. to handle their products.

Yale & Towne's TRI-ROTOR positive displacement pump has only three moving parts (two pumping members). The unique Variable Volume Control Head reduces over-heating, chewing, foaming and agitating of the material being handled. TRI-ROTOR PUMPS are used by most of the leading oil companies.

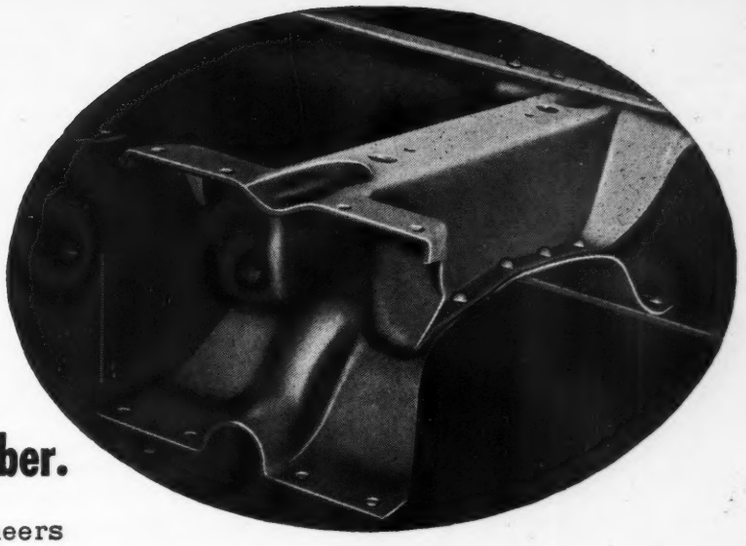
Three head styles: Solid, By-Pass, Variable Volume—optional and interchangeable—for all truck pump installations. Sizes 5 G.P.M. to 200 G.P.M.

Send specifications for your pump requirements to The Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Conn., U. S. A.

ECONOMICAL — ROTARY ACTION
PROTECTIVE — PISTON ACTION
ONLY TRI-ROTOR GIVES YOU BOTH IN ONE PUMP

TRADE YALE MARK

MAKERS OF THE FAMOUS YALE LINES
OF LOCKS, HARDWARE, HOISTS AND INDUSTRIAL TRUCKS



This is a box-girder cross-member.

It is a Mack box-girder. Mack engineers designed it; you find it only on Mack trucks. It has proved the best all-around cross-member ever designed.

It has tremendous beam strength in both vertical and horizontal planes. It possesses extremely high torsional rigidity. Its specially designed jaw ends assure greatest possible stiffness at every junction.

Consequently, it ties side-members together positively; always keeps them uniformly spaced. It imparts exceptional torsional stiffness to a frame. It won't spraddle. It produces a frame that won't weave, a frame that stays true, a Mack frame!

This cross-member is an example of what we mean when we say a Mack is a precision-built truck and not a mass-production truck. Every part of a Mack is specifically designed and engineered to do its job.

We put this extra work into Macks—so you can get extra work out of them.

Mack

since 1900, America's hardest-working truck

Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada Ltd.

Trucks for every purpose

ONE OF THE LARGEST fuel oil distributors in the East is **Burns Bros., New York.** Helping to maintain dependable delivery schedules on such a huge volume of business is the job for the company's fleet of modern Macks.

fuel oil & oil heat

Shirl M. Rudolph has become vice president in charge of sales, Hays Corp., Michigan City, Ind., and *William H. Pugsley,* vice president in charge of field research. Mr. Rudolph has served Hays Corp. since 1920 in the accounting department, as factory manager, assistant to the president and in various sales capacities. Mr. Pugsley has been with the company since 1932, as manager of the combustion control division, after sales and office experience in Cleveland and Chicago offices. He has supervised organization of educational courses for salesmen and service engineers and arranged demonstration equipment.

Pugsley

Rudolph

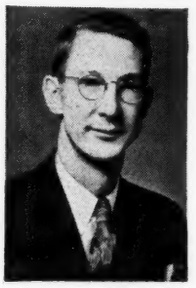
W. B. Miller has become engineer, Field Engineering Div.; C. W. Brown, engineer, Application Engineering Div.; C. E. Ehrenhardt, engineer, Engineering Commercial Div.; R. W. Olsen, supervisor, field section, Field Engineering Div., General Electric Co., Air Conditioning Dept., Bloomfield, N. J. All will be under the direction of F. H. Faust, manager, Commercial Engineering Divisions.

Bruce K. Brown is announced as president, Pan American Petroleum Corp., wholly owned direct subsidiary of Standard Oil (Indiana).

Henderson Supplee, Jr., is resigning as president of the Supplee-Wills-Jones Milk Co., Philadelphia, to become a vice president, The Atlantic Refining Co. He will assume his new duties May 6.

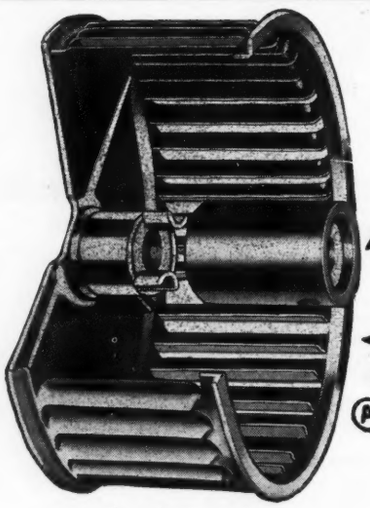
Robert L. Sanford has been appointed eastern district manager for the Heating and Appliance Div., Evans Products Co., Plymouth, Mich. His territory will include the New England states, New York, New Jersey, eastern Pennsylvania, Delaware, Virginia and North Carolina. He was Evans Midwest district manager from 1938 to 1942, at which time he left for duty with War Production Board.

Stanley R. Himsel is district representative, Williams Oil-O-Matic Div., Eureka-Williams Corp., Bloomington, Ill., in the territory embracing sixteen counties. Before joining Oil-O-Matic, he was head of the heating and bottled gas dept., Lloyd L. Felker Co., Marshfield, Wis., for five years, and in charge of heating, oil-burner and electrical sales for Mt. Horeb Hardware Co., Mt. Horeb, Wis., for ten years.



John C. Weidman has become district manager at Revere, Mass., Sun Oil Co. *Charles F. Schnedl,* former Revere district manager, succeeds Mr. Weidman as Hartford district manager. Appointment of *Fred Robinson* as manager of motor products department, Hackensack, N. J., district, also was announced.

Walter P. Berg has been elected vice president and member of the board of directors, Dravo Corp., Pittsburgh 25, Pa.



A.—L-R Body inserted in rubber body.

B.—L-R Socket molded in rubber engages blower hub.

This coupling can't fall off when blower and pump units are serviced

LOVEJOY L-R Type CX Double-flex Flexible Couplings

End service problems due to wear on pumps, small motors, etc., in oil burners and air conditioning units because of misalignment, whip, shock, surge, backlash between drive and driven units. The LOVEJOY L-R Type CX Double-flex flexible coupling efficiently corrects for these enemies of machinery, and is so constructed that it can't fall off when units are serviced.

EASILY INSTALLED IN DARK OR CLOSE QUARTERS

Rapid assembly, ease in installing, low cost, all make the Type CX Double-flex the *first* coupling to consider for efficient, economical use in your heating and air conditioning products. Manufacturers will supply blowers having L-R jaws on the blower hub.

Write for Bulletin 520 on the Lovejoy L-R Type CX Double-flex coupling.

LOVEJOY L-R Couplings from 1/6 to 2500 H.P.

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

Standard-yne

FOR DEALERS WHO KNOW GOOD BURNERS

Dealers — here is your 1947-48 Burner.

We have been in the burner business a long time. We know dealer problems, and oil problems.

We invite your study of our engineering background, business reputation, and financial stability.

Consider both the burner and the producer, and for this year, and the future, you will choose—

STANDARD-YNE

for Profits

Send for prices and franchise

STANDARD-YNE APPROVALS
Underwriters' Laboratories
New York City Board of Standards and Appeals
Commonwealth of Massachusetts

SPECIFICATIONS . . . MODEL S

POWER REQUIREMENTS
110 volt, 25, 30, 50 and 60 cycle A.C.

MOTOR
1/8 H.P.

IGNITION TRANSFORMER
110-10,000 volt, 23 MA., continuous duty.

FUEL UNIT
Underwriters' listed.

CONTROLS
Underwriters' listed. Thermostat, combustion control and limit control.

FUEL
Oil not heavier than No. 3, Commercial Standard grade, also No. 4 oil having a viscosity not greater than 70 seconds—Saybolt Universal at 100° F.

CAPACITY
Maximum oil rate—3 gal. per hour.
Minimum oil rate—1 gal. per hour.
Steam systems—1000 sq. ft. E.D.R.
Water systems—1600 sq. ft. E.D.R.
Warm air systems:
Maximum bonnet output per hour at 85% efficiency:
Gravity circulation—352,000 B.T.U.
Forced circulation—352,000 B.T.U.

STANDARD-YNE SERVICE, Inc.

(MAin 2-1040)

332-336 GRAND AVENUE **BROOKLYN 5, N. Y.**

Readers' Forum

HOMEEASE PRODUCTS DIVISION, INC.
Paterson, N. J.

Editor:

Thank you for publishing data on our new Fire-Stat combustion control in your March issue, but we must point out one inaccurate sentence in your write-up. The sentence is: "It is claimed that the extra air admitted to the flame at the start drops combustion efficiency only 2 or 3 percentage points but eliminates smoke and sooting of the heating surfaces."

The fact is that in no way does the Fire-Stat drop the combustion efficiency at any moment of burner operation. The stack loss is the total of (a) the loss indicated by a CO_2 reading and a stack temperature reading, plus (b) the loss caused by incomplete combustion and escape of burnables or combustibles.

Adjusting a typical burner for high CO_2 with the firebox red-hot causes the escape of considerable combustibles with the firebox cold. That is, adjust a typical installation for 12.5% CO_2 and then operate it for 3 minutes 'on' and 20 minutes 'off', and the result will be chimney smoke on the cold starts and soot in the flues. True, the smoke and soot are troublesome, and the sooting of flues raises the stack temperature and stack loss. But the greatest importance of the smoke and soot on cold starts lies in their being indicators of an important decrease in efficiency which is caused by the escape of unburned fuel in the form of solids, oil vapors, and gases.

To get accurate results, a serviceman using only a CO_2 analyzer and a stack thermometer to gauge the flue gas loss must wait until the firebox is red-hot before he takes his reading, and he must take reading when smoke and soot are not being formed.

Because it provides the flame with carefully measured additional air when the burner starts with the firebox cold, the Fire-Stat aims for complete combustion and no smoke or soot from the moment the burner starts. Speaking in terms of closely-adjusted, instrument-checked oil burner installations, we declare that Fire-Stat eliminates the usual loss of efficiency caused by the escape of combustibles from a cold firebox, and thus provides higher efficiency with the best on-off firing than heretofore has been obtainable. The automatic adjustment of the flame by the Fire-Stat is gradual, in keeping with the temperature increase of the fire-side surfaces of the firebox. Following cold starting, from three to six minutes elapse before the Fire-Stat, acting very gradually, adjusts for the high CO_2 desired.

From this it is understandable that the Fire-Stat does not lower efficiencies in any way. It permits burning the oil at maximum efficiency for (a) cold starts, and (b) operation with the firebox red-hot. We find that giving the flame more air for cold starts is necessary for arriving at peak efficiency for the cold starts, for it is fundamental that a flame which forms smoke and soot (even when the firebox is cold) is not an efficient flame.

V. F. LAMELA.

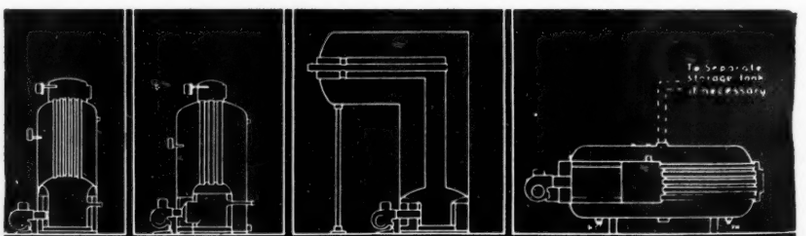
◈

ZAMBELLI BOILER WORKS
Philadelphia, Pa.

Editor:

We wish to thank you for the item in

AQULUX
WATER HEATERS
★
A size and type for every domestic and industrial use

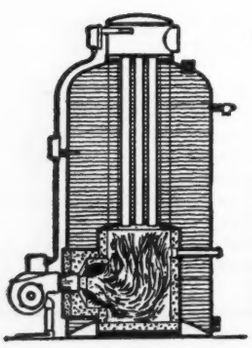


FOUR TYPES OF HEAVY-DUTY AQULUX WATER HEATERS

a good name to keep in mind

when it's up to you to provide

plenty of low-cost *hot water!*



This is the
AQULUX
225-VS
Capacity 270 g.p.h.
100 rise.
225,000 B.T.U. output.
230 gal. self-storage.

You can safely bank your reputation on the efficient dependability of Johnson's famous AQULUX WATER HEATERS powered with the time-tested, fuel-saving "Bank-heat" Burner. No matter what the problem may be . . . domestic hot water for a private home or heavy volume hot water for a laundry, hotel or factory . . . there's an Aqulux model and size that will fill the bill perfectly. Many of the smaller types come to you "packaged" and ready to hook up to water, electric and flue lines.

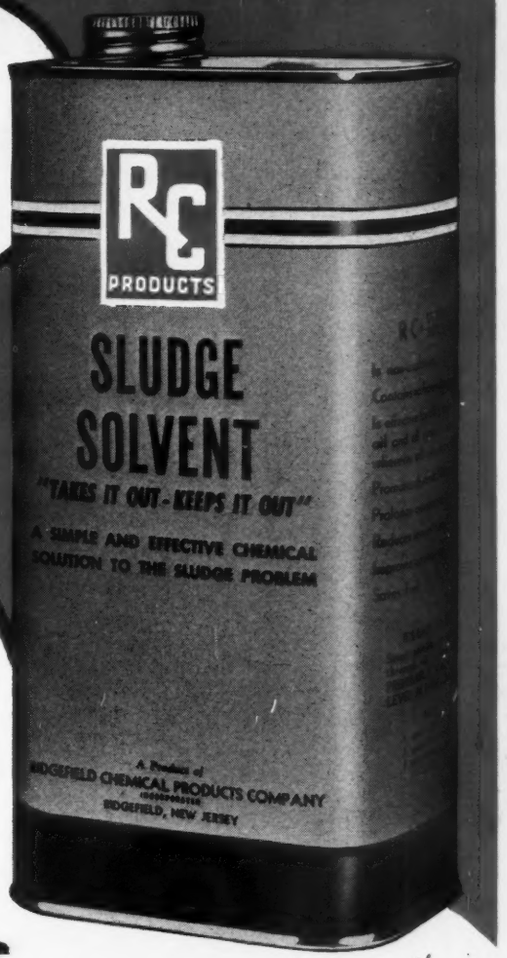
It will pay you to keep the detailed facts and specifications on hand. We will gladly send you engineer's drawings and data if you'll write.

Johnson Oil Burners

Builders of fine Oil Burner Equipment since 1903

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

SELL YOUR CUSTOMERS A SPRING CLEAN-UP SPECIAL WITH RC SLUDGE SOLVENT



Extra business, extra profits for you! Extra service for your customers! Push this Spring Clean-Up offer now when heating season service calls fall off. Economical. Quick, easy to use—just pour into storage tank before oil is put in. Does not contain kerosene or creosote.

WHAT RC SLUDGE SOLVENT DOES:

- **RC SLUDGE SOLVENT** liquefies accumulated sludge so that it burns with the oil and prevents further sludge formation.
- **RC SLUDGE SOLVENT** disperses water condensation. This is especially important during humid summer months when storage tanks are not kept as full as during winter. Moisture in humid air is drawn into tank through intake pipe and condenses on cold walls.
- **RC SLUDGE SOLVENT** minimizes corrosion—provides protective coating against caustic action on storage tank walls and in feed lines.
- **RC SLUDGE SOLVENT** prevents clogged strainers and lines.
- **RC SLUDGE SOLVENT** reduces soot and smoke.

Other Products in the COMPLETE RC LINE . . .

RC OIL SEAL remains semi-plastic against vibration and pressure. Can be used with or in place of gaskets and on all threaded connections. Non-breakable plastic container with handy brush-in-cap makes RC Oil Seal easy and economical to use. Free sample on request.

RC SOOT REMOVER removes the most common cause of heat transfer loss in oil-fired boilers safely and economically. Easy-to-use powder form.

RC WATER CONDITIONER neutralizes alkalinity in make-up water. Cleans boiler interior and keeps piping, traps, and siphons free from clogging—insuring efficient heating.

ATTENTION JOBBERS!

Write today for information on jobber territories open and profit possibilities on RC Products.

Try Amazing New RC DRY WASH Trademark Hand Cleanser

Cleans the dirtiest hands in just a few seconds! Removes oil, grease, grime, tar, paint, printers' ink—*all without water or scrubbing.* Comes in handy tube for your tool kit and large size economy can for your shop.

Order RC Products from Your Jobber. If he can't supply you, mail coupon today.

RIDGEFIELD CHEMICAL PRODUCTS COMPANY, Inc.
Ridgefield, New Jersey (FOH—5-47)

- ☐ **Please send information, prices on RC Sludge Solvent. Also name of nearest jobber.**
- ☐ **Please send free sample of RC Oil Seal and data on other RC Products.**

NAME.....

ADDRESS.....

CITY.....

MY JOBBER'S NAME IS.....

HIS ADDRESS IS.....

Ridgefield Chemical Products Co., Inc.

RIDGEFIELD • NEW JERSEY

the April FUELOIL & OIL HEAT.

We would appreciate very much if you would reprint the information to read, we fabricate Perma-Life Boilers up to sizes 10, ranging from 400 to 3740 sq. ft. steam. The boilers are made of Fire-Box Steel and are coded according to all certified requirements. We have been manufacturing boilers since 1901.

We would also like to take this opportunity to tell you we think very highly of your magazine and look forward to receiving it every month.

WILLIAM V. ZAMBELLI.

C. L. Hewitt, Jr., who returns to the company after a five-year absence, has been named general sales manager, L. J. Mueller Furnace Co., Milwaukee, Wis.

Hewitt

Hearne

He had been eastern sales manager for the company for more than twenty years, and for the past year was manager of sales, Heating Equipment Dept., Rheem Mfg. Co. He was a colonel in the Army Air Forces during World War II, and a pilot during World War I. Another announcement disclosed the appointment of *R. Dean Hearne* as district sales manager for the state of Wisconsin, including Milwaukee. Mr. Hearne joins the Mueller organization with a background of more than ten years of heating and air conditioning experience.

Harold I. Johnson has been added to the production engineering department, Harvey-Whipple, Inc., Springfield, Mass. He formerly was with Chevrolet Aviation Division where he was engaged in development, testing and production work on jet aircraft engines. In announcing the addition of two factory representatives,

Laird

Reynolds

Johnson

it was announced that *Charles S. Reynolds,* Utica, N. Y., will cover upstate New York from Albany to Buffalo; *George W. Laird,* Paw Paw, Mich., will cover the states of Michigan and Indiana. Mr. Reynolds joins Harvey-Whipple after association with International Heater Co., Utica, N. Y., engaged in engineering and field sales work, and service with the Army Air Forces in the war. Mr. Laird has been a manufacturer's representative for a number of years in his area and is well known to oilheating dealers there.

George I. Cornwell, Elizabeth, N. J., sales representative for Burnham Boiler Corp., Irvington, N. Y., died on March 5. For the past few years he had been inactive, but since joining Burnham in 1910 he had been associated for a number of years with the manufacturing division before being transferred to the sales division. He had been with United States Radiator Co., at their West Newton plant, before coming to Burnham, and was widely known among the heating trade and wholesalers in Elizabeth and South Jersey territories.

USE KLEEN-FLO FOR SUMMER CLEAN-UP JOBS

Check these benefits:

1. Absorbs condensation—keeps entire system water-free
2. Dissolves gums and sludges
3. Eliminates storage tank cleanings and pump-outs
4. Keeps lines clear, prevents clogging and congealing
5. Insures quicker starting
6. Lessens oil baking on atomizers. Fewer burner changes
7. Reduces carbon and soot
8. Improves combustion
9. Gives cleaner firing, faster heating
10. Increases furnace and boiler capacity
11. Eliminates oil odors, smoky chimneys, puffs
12. Protects refractory brick work

KLEEN-FLO cuts service work, reduces call backs, keeps customers satisfied — which means increased fuel oil sales for you. Try KLEEN-FLO today on one of your tough service calls and see the difference.

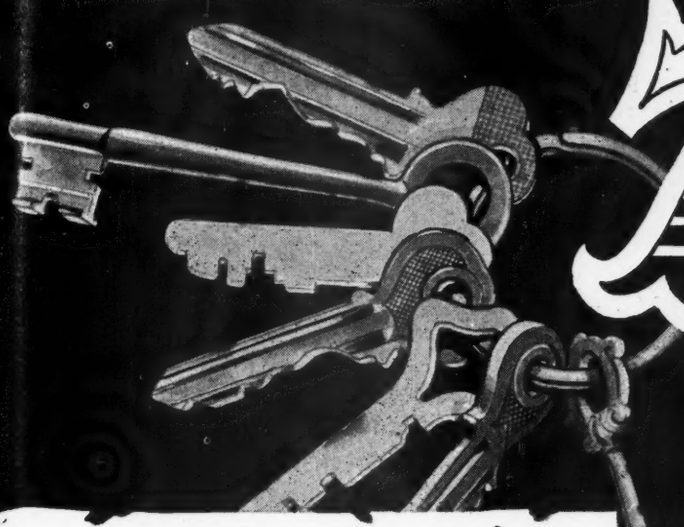
COMBUSTION UTILITIES CORPORATION
1451 BROADWAY NEW YORK 18, N. Y.

Canadian Division
1253 McGill College Ave., Montreal 2

New England Distributor
ALLIED APPLIANCE COMPANY
111 Berkeley Street Boston 16, Mass.

West Coast Distributor
DIAMOND OIL CO., INC.
550 Bauchet St., Los Angeles 54, Calif.

MOR-SUN'S PROMOTIONAL 7 Keys



mean MORE PROFITABLE BUSINESS for you!

MOR-SUN'S policy is to give you a product as well as a plan--the MOR-SUN line of pressed steel furnaces . . . plus a planned promotional program to help you sell more--to mean better business, more profitable business for you!

MOR-SUN'S representative in your territory is ready, willing and able to show you how to make this program mean more business! If he hasn't called on you yet, write us for his name and address.

1. ATTRIBUTES of a SALESMAN . . .

The pocket-size book that's received praise in national advertising and trade publications . . . used widely by colleges and trade schools . . . and by other industries.

2. SALESMANUAL for Merchandisers of Warm Air Furnaces . . .

To help you and your salesmen sell more warm-air furnaces—this folder presents the how, when, where and who! (also nationally acclaimed by selling organizations).

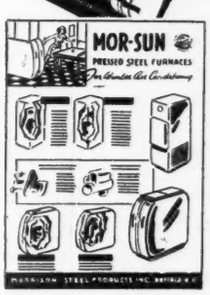
3. The STORY of MORRISON . . .

To inform you of the important sales-making features of the Morrison plant and products, this booklet sums up the story for you and your salespeople.

4. Dealer and Consumer Bulletins

T-Series Oil Furnaces
U-Series Oil Furnaces
T-Series Gas Furnaces
U-Series Gas Furnaces

Dealer and consumer literature that dramatizes the beauty and service of the MOR-SUN line . . . complete specification bulletins as well as effective mailing pieces.

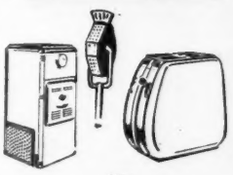


5. WALLSPREAD and DECALCOMANIA . . .

Give your walls and windows color with the large wall spread of the new MOR-SUN line and the attention-arresting colorful decalcomania.

6. NEWSPAPER AD MATS and RADIO SCRIPTS . . .

Run MOR-SUN advertising under your own name . . . FREE mats and radio scripts you'll be proud to call your own. It pays to advertise—right!



7. NATIONAL ADVERTISING IN LEADING ARCHITECTURAL and BUILDING MAGAZINES . . .

Every architect and builder in the country reads our informative, sales-making ads in his own particular trade paper. We promote to him—we pre-sell him—to help you close the sale!

And other Keys will continually be added to your MOR-SUN Key Ring!

"The Sun Never Sets with MOR-SUN!"

MORRISON STEEL PRODUCTS, Inc. BUFFALO 7, N. Y.

First Love, Oilheating

(*Continued from page 65*)

Getting away from Portland 85 miles down state to Corvallis, the Allen Oil Co. was the next to be studied. The owner of the business is James McNesby, formerly with Union Oil Co. for 25 years, who bought it after the death of Allen. He has about as nearly ideal a small oilheating business as could be imagined. Looking after the burner part of the business is Harry Puscas, who engineers, installs, services and whatever else is necessary.

Corvallis has a population of about 12,000, aside from the students at Oregon State College. There is no coal in the town, very little gas, which results in some two-thirds of the populace burning wood or sawdust and the balance oil. McNesby has his own bulk storage which he fills with his own 7,000 gallon transport trailer combination, hauling from the Portland tidewater terminal of Standard of California. He sells oilburners . . . installed last year 60 Ray gun burners and 30 Kresky vaporizing type, and has orders for substantially more than that number for 1947 installation, quite a lot of them large burners for hotels and business buildings.

The Allen Co. delivers all of its stove and furnace oil in one compartmented truck, and handles its growing heavy oil business with its transport trailer, without passing through the bulk plant.

McNesby and Puscas through arrangements and introductions made possible the series of photographs on the accompanying sawdust burning story. An average small home in the area would spend about $45 for a season's sawdust, against $65 for fueloil, not enough difference to justify the saving, particularly when storage space is considered in addition to the work factor. The sawdust bin in a home holds about as much as a boxcar, and it's quite a walk to the far end as it gets near empty.

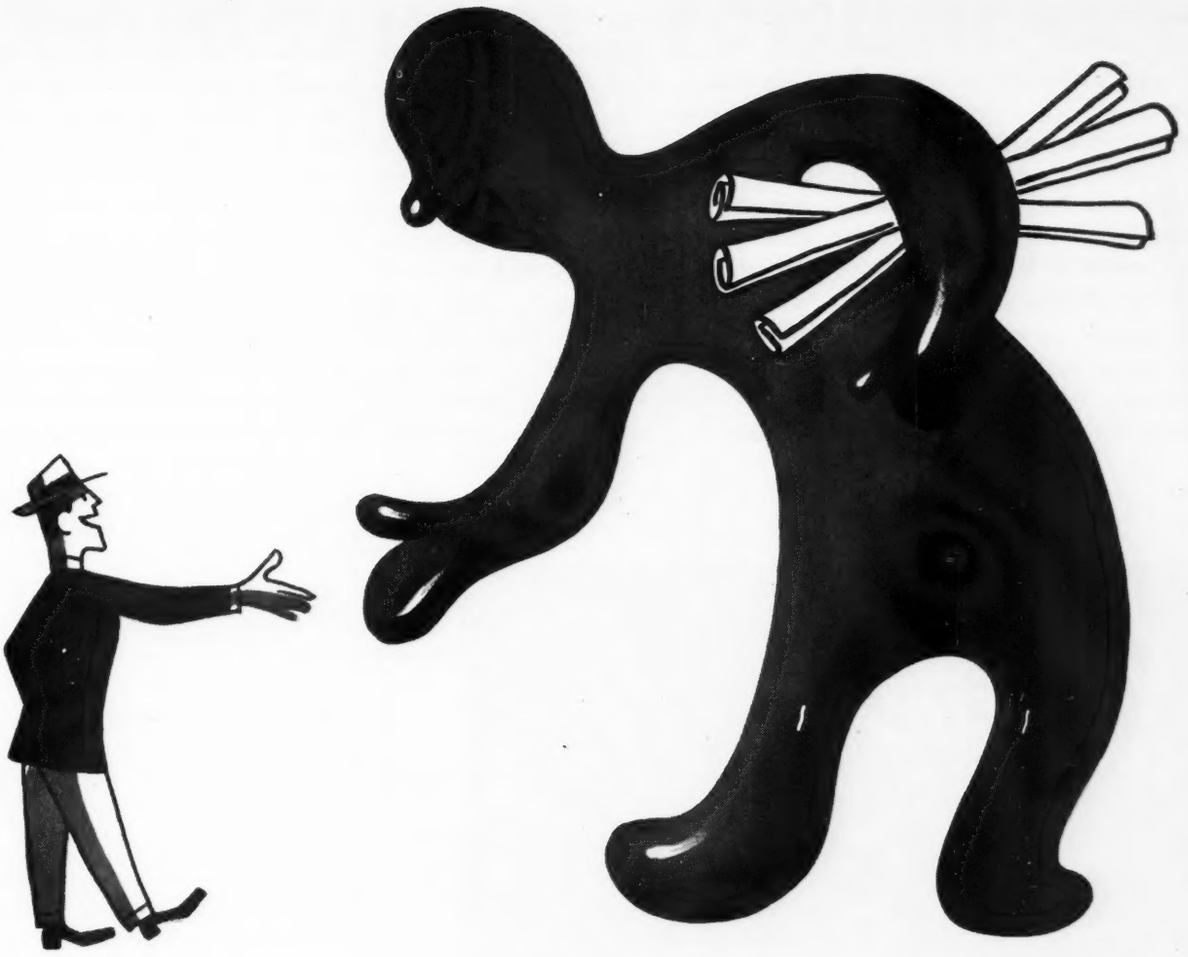
In the Corvallis General Hospital, McNesby recently installed a Ray burner for heavy oil and the sawdust storage space thus released increased the usable floor area of the building by one-sixth . . . quite a point, building costs being what they are.

Naturally, there are some very large sawdust applications that will not go out for some time, if ever. One such is the power and heating plant for Oregon State College. Three 500 Hp boilers use sawdust, but are fitted with oilburners for standby emergency use. The sawdust or hogged fuel comes from the local Corvallis Lumber Co. mill, largest in the state, and is handled through chutes and conveyors to minimize labor . . . it costs only about 30% as much as oil on such a large installation. Visiting the lumber mill, C. W. Lobhart acted as guide and showed how the various wood waste products are developed.

Largest Distributor

Back in Portland, the next visit was to Liberty Fuel & Ice Co., another California Standard outlet and the largest fueloil distributor in the state, when all products are included. Charles "Chuck" Holloway, Jr., sales manager of this company, is widely known throughout the oilheating industry because of his activity in 1946 and early 1947 as vice-chairman for the West of OHI's Distribution Division, and before that, for his interest in attending national conventions of OHI. Holloway was chairman of the annual Pa-

IGNITION AT ITS BEST
Oil-burner ignition is at its best when an oil burner is equipped with a Dongan Ignition Transformer—the transformer with many outstanding construction features. It's standard equipment on leading makes of oil burners.
Write for Bulletin.
DONGAN ELECTRIC MFG. CO.
2991 Franklin
Detroit 7, Mich.
The Dongan Line
Since Nineteen-Nine
WRITE FOR LITERATURE
DONGAN
TRANSFORMERS



How Atlantic's **BURNING INDEX** is at work for you

ATLANTIC FURNACE OILS

TERMINALS AT

Buffalo, N. Y.	Northumberland, Pa.
Rochester, N. Y.	Mechanicsburg, Pa.
Syracuse, N. Y.	Allentown, Pa.
Albany, N. Y.	Reading, Pa.
Elmira, N. Y.	Trenton, N. J.
Binghamton, N. Y.	Philadelphia, Pa.
Providence, R. I.	Wilmington, Del.
New Haven, Conn.	Baltimore, Md.
Newark, N. J.	Richmond, Va.
Williamsport, Pa.	Wilmington, N. C.
Brunswick, Ga.	

• The Burning Index—a recent development of wide-awake Atlantic research—is based on gravity and the 50% boiling point of oil. It is a positive measure of furnace oil's adaptability to variations in feed and air. It is your assurance that Atlantic Furnace Oil is a product you can trust.

• Atlantic Furnace Oil boasts a high Burning Index. B.I. is a sort of silent partner that goes into the homes of your customers and is always on the job. The B.I. of this quality fuel maintains good-will for you in all kinds of weather . . . keeps complaints to a minimum . . . helps keep service costs down.

• Atlantic Furnace Oil is available when you need it. Ample reserves are on tap at 21 Atlantic barge and pipeline terminals conveniently located in 10 important New England, Eastern and Southeastern states. That means prompt deliveries when and where you want them.

The Atlantic Refining Company

REFINERIES AT PHILADELPHIA, PENNSYLVANIA; AND ATRECO, TEXAS

fuel oil & oil heat

cific Coast OHI meeting March 1. He is also president of Portland's Junior Chamber of Commerce and active in other public affairs.

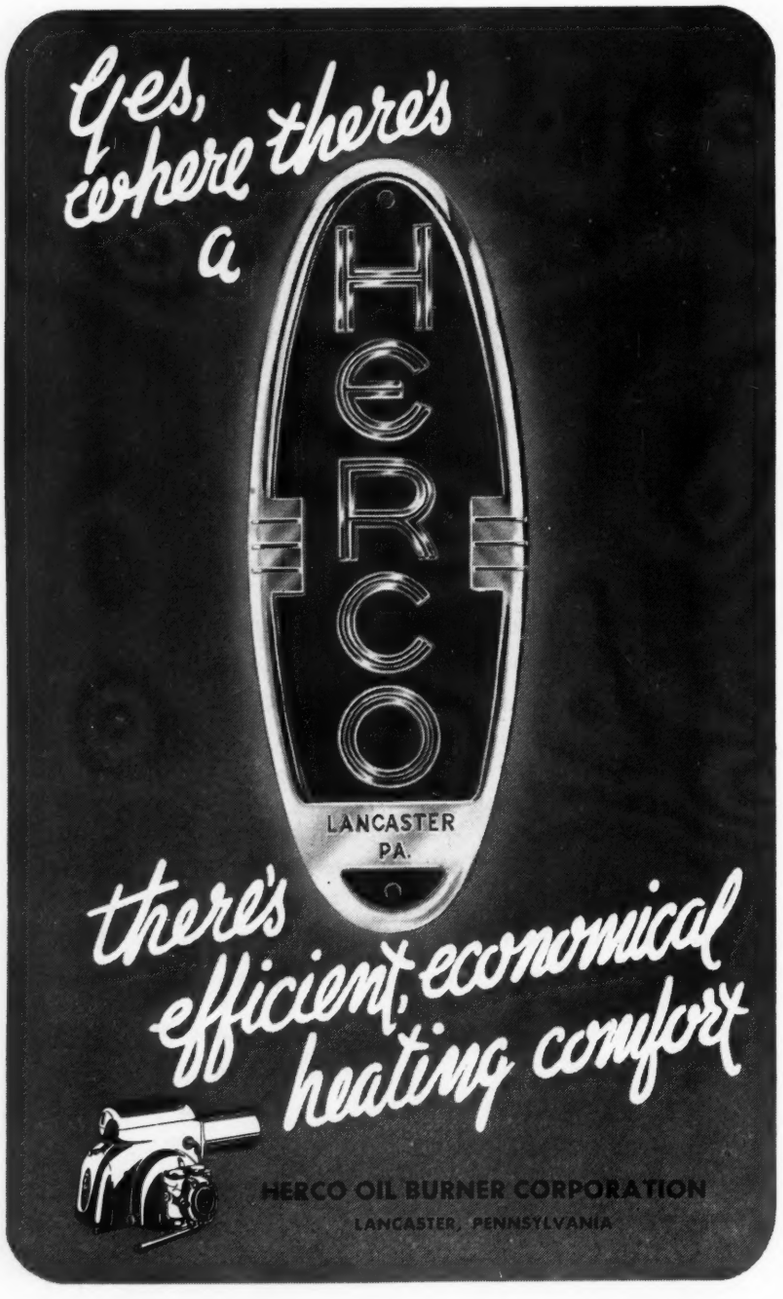
Paul Harbaugh, secretary-treasurer and general manager of the company, is president of the Oregon Fuel Merchants Assn., the state's principal oilheating group. A. G. Riddell, president, less active in association affairs, was absent due to illness.

Liberty operates 14 fueloil trucks, of which 12 are for stove and furnace oil, two for residuals. With approximately 2,600 domestic central heating customers, this is up 65% since VJ-Day, somewhat better than the market average. The company sells no oilheating equipment whatever, and has, for the present at least, strong reasons for not doing it. They feel that if the policy of integrating burners and oil in the same companies were pursued vigorously just now, many more burner dealers would be forced into the oil business. Thus the coming expansion in oil sales would not bless the present companies so much as it would simply spread the volume over many more companies.

Liberty does work closely with oilburner dealers. The company has five oil salesmen on a full time basis, and these men actually spend most of their time rounding up oilburner prospects, clinching the idea of oil heat, and then steering them to a burner dealer. That assures them the new oil account and they find it a lot easier to get business that way than by taking it away from another oil company.

More than that, Liberty encourages its oil customers to depend upon it for oilheating satisfaction, even to giving it the burner service calls. The company has no service department, but it again channels these calls to competent service men in the vicinity, thus keeps the customers clear of fly-by-nights and jack-legs that could hurt the cause of oilheating.

In general, Harbaugh and Holloway are doing a real industry relations job in the public interest, well above the Northwest's average. Time will tell whether they eventually pull all of these activities under one roof.



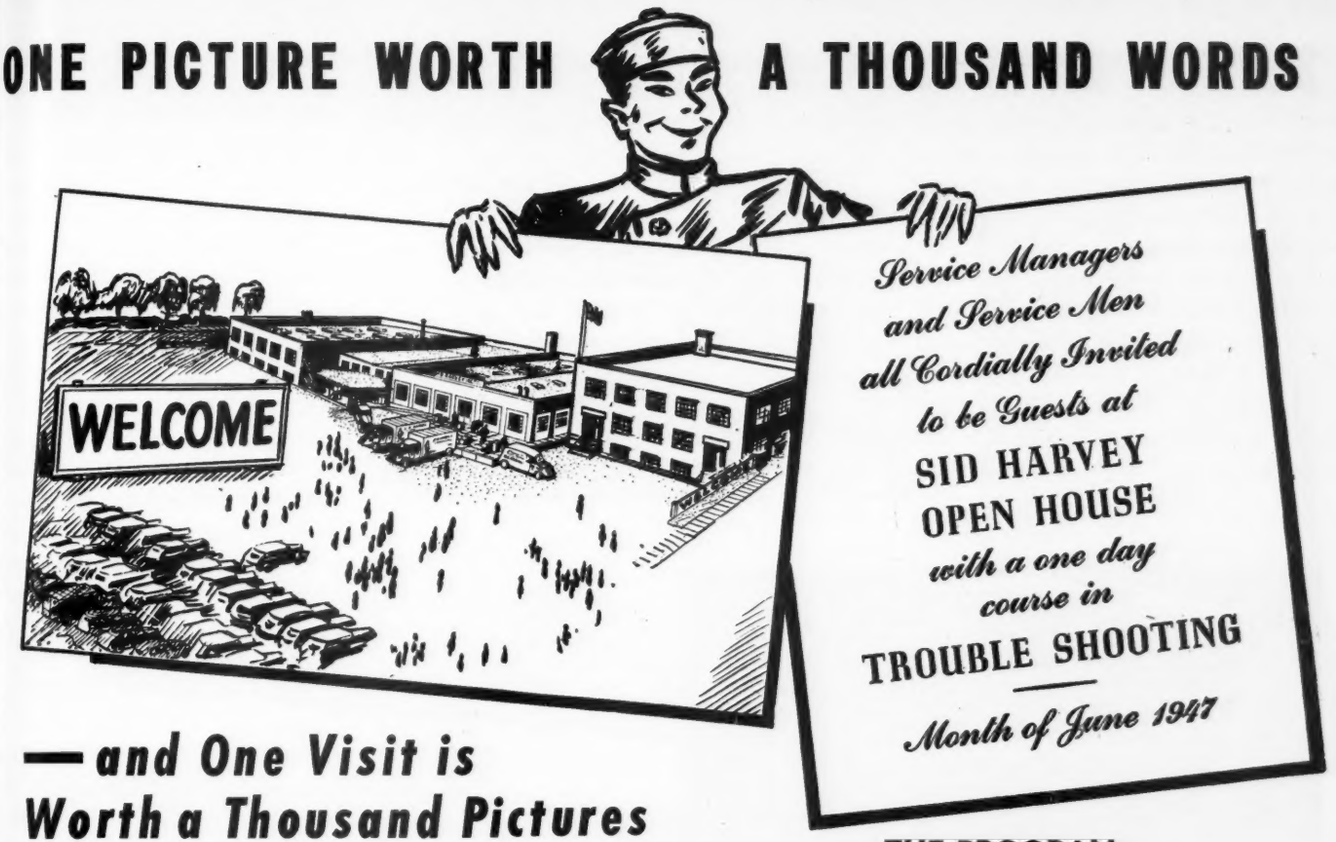
Distributes Ray

The fourth company studied was Campbell-Norquist Co., Portland, a strictly oilburner outlet with no fueloil sales. Four partners, of which Harry Norquist is senior partner, have conducted this business since 1929, the other three being John Matheson (to whom William Angus is a brother), Gerald B. Shaw and E. W. Neubauer. Campbell, the other original senior partner, died in the first year of operation.

Campbell-Norquist is a Ray burner distributor for the state, and has had a phenomenal share of the heavy burner business in the past six or eight years . . . industry gossip estimates that they have had five-sixths of that type of business placed in the period. Strong on engineering and service, the company operates 14 service trucks and has 24 full-time service men employed. Norquist estimates that there are about 6,000 heavy oil burners in Portland. The company also sells domestic burners, at retail in Portland and wholesale outside, but this represents a small part of its dollar volume.

In heavy burners it gets into many unusual applications. One of the photographs shows part of a 10 burner installation at Great Western Malting Co., across the river from Portland at Vancouver, Washington. The plant comprises a mul-

ONE PICTURE WORTH A THOUSAND WORDS



Service Managers and Service Men all Cordially Invited to be Guests at

SID HARVEY OPEN HOUSE

with a one day course in

TROUBLE SHOOTING

Month of June 1947

—and One Visit is Worth a Thousand Pictures

Again, we invite you to inspect the facilities of the largest and best equipped plant in the industry devoted exclusively to rebuilding and stocking of oil burner service parts. We want you to meet the 170 people in our home organization, and to see what we have that will be of use to you who service or install oil burners.

Bring your service men with you—as many as you like. They are the ones who have to lick the troubles in the field. They, too, will want to see the "live" demonstrations of how to diagnose and correct pump and valve troubles. They will see with you every detail that we take in rebuilding the pumps, valves, controls, motors and transformers. Just seeing the vast stock of service parts, many of them to be found in no other place, will enable you to know what is available when the need arises.

We welcome any oil burner service and installation organization—whether they are customers of ours or not—and you will not be asked to purchase anything. However, should you wish to buy any of the products that we have in stock during the day of your visit, we will extend to you a flat

10% COURTESY DISCOUNT

beyond regular trade prices as our contribution toward your expense.

Now would be a good time to load your car with your winter accumulation of defective pumps, motors, transformers and controls and bring them with you for immediate exchange. You can save transportation costs both ways and get a lower cost to boot.

THE PROGRAM
Mondays through Fridays during June

10:00 AM: Welcome by Sid Harvey, followed by an inspection of the plant. This will include a conducted tour of our rebuilding department where you will see "live" demonstrations of various pump and valve troubles with diagnosis and correction. Demonstrations of Safety Cut-off Valve, HE-DE-WE Bellows replacement.

NOON: Cocktails and luncheon as guests of Sid Harvey, Inc.

1:30 PM: Inspection of Control Rebuilding Department. Thermostats, clocks, boiler controls, combustion controls, relays, transformers, motors rebuilt and tested.

3:00 PM: Adjournment.

Those wishing to stay for further information or to revisit specific departments are welcome to do so.

HOW TO GET TO SID HARVEY'S AT VALLEY STREAM

If you come by train from New York, leave Long Island station (Pennsylvania at 8:56 or 9:03—about 29 minutes.) We will meet the train and take you to the plant. If you come by car, write for detailed instructions. (15 miles from Times Sq.) Please make advance reservations.

IMPORTANT In order to give you individual attention while you are here, we must limit the number of our guests to those that *write on their letterhead for a reserved date.* Please give us the names of all those who will be in your party as well as a choice of dates, if possible. We will confirm promptly.

Avoid Disappointment — Get an Early Date

IN PHILADELPHIA
Sid Harvey of Pa., Inc.
1520 South 57th Street (43)
Branch: 521 W. Lindley Ave.

IN BOSTON
Sid Harvey of Mass., Inc.
566 Cambridge Street
(Allston Station)

IN NEWARK
Sid Harvey of N. J., Inc.
103 Lindsley Avenue

SID HARVEY INC.
VALLEY STREAM, NEW YORK

fueloil & oil heat

ti-million bushel grain elevator on tidewater and a malting unit to make malt from barley for brewers. After the grain is washed, dried and then sprouted, it has to be finally dried for storage as malt, and it is for this last operation that the Ray burners were installed.

The combustion chambers go high into the interior of the building and the malt is dried by passing through it the actual combustion gases, as it slowly moves over acre-size beds. The sulphur in the combustion gas gives the malt a rich brown shade that actually improves the flavor of the beer. This sulphur-adding operation in older plants requires a complex and costly process, where oilburner gases are not employed.

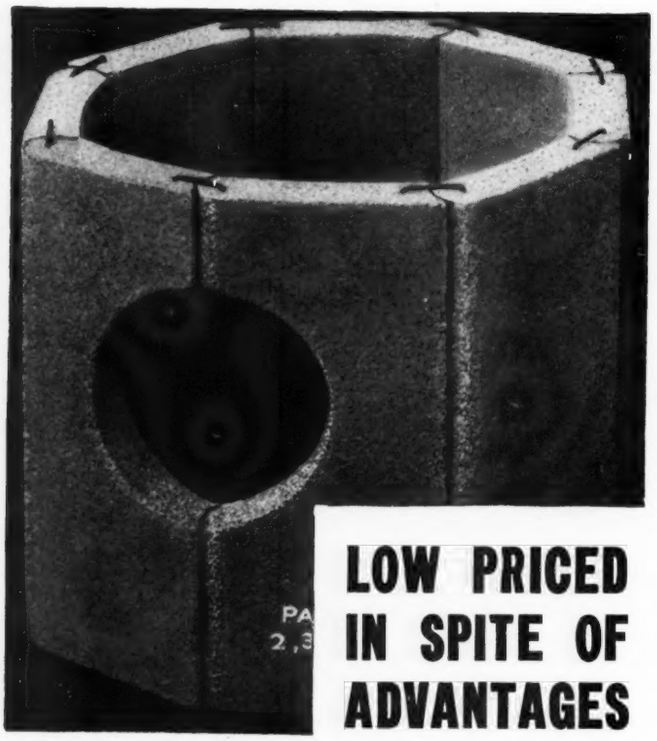
The next company seen was actually not in Oregon, but across the Columbia River at Camas, Washington. It is included in the Oregon lineup because it is only 20 miles from Portland. Carl Belz runs Belz Fuel Service, which started with wood in 1933, with fueloil in 1936 and oilburners in 1938. A Mobilheat marketer (General Petroleum) Belz also sells oilburners, currently Oil-O-Matic, Ray and Enterprise, and operates a burner service department with two service trucks.

With his own bulk plant, Belz operates a transport trailer to bring his products from General's terminal on the Willamette River. With three trucks operating on stove and furnace oils, plus another on residuals, the operation fans out to as far as 30 miles in some directions, serving 400 furnace heating customers and a little over 1,000 stove oil accounts. The designation "stove oil accounts" in the Northwest means all users of PS-100 grade, similar to No. 1 in other areas, and represents primarily users of space heaters, floor furnaces, water heaters, cook stoves and even central heating plants where pot-type burners are used. The term "furnace oil" in the section means PS-200, similar to No. 2 or No. 3 farther East, and up until quite recently was called "diesel oil," because fuel for diesels and for pressure oilburners was all drawn from one tank. Now most of the refiners are introducing separate products for the two uses, with more straight run product going to diesels, more cracked product to oilburners.

Belz also sells 1,200 barrels a month of residual fuels, which is about 90% of all such business sold in his territory. He sold 100 pressure oilburners in 1946 and is sure of more than that this year, even though competition is starting to show up rather strongly. The reason that Belz and his business are of more than average interest is that the town has only 5,500 population, yet a complete oilheating service is rendered on a scale similar to many city dealers. The town, Camas, has about 50 gas heated homes, six stokers, and then last year 20 new homes got electric heat. Belz feels that electricity is a mild threat for the future, because so many people are talking about it.

The electric house heating rate is six mills up to 2,000 Kwh, and then it rises to eight mills, to discourage large users. Six mill electricity is equivalent to 18¢ fueloil, assuming 100% efficiency for electricity and 70% for oil. However, with average annual oil bills running to only around $90, fuel cost differences are less significant than in colder parts of the country.

Oregon's capital is Salem, about 60 miles south of Portland, a quite attractive small city of 38,000 population, and one



LOW PRICED IN SPITE OF ADVANTAGES

R&I Combustion Chambers cost less for these reasons:

The initial price is low and they can be installed in about a third the usual time. This for the reason that cement and everything needed to install comes packed in carton with chamber, which can be installed round, pear shaped or rectangular simply by locking sections with the bonding clips.

There are no loose pieces to get lost, broken or mixed.

In a carload there are but 700 cartons, while about 6000 loose pieces must be handled in a carload of ordinary chambers.

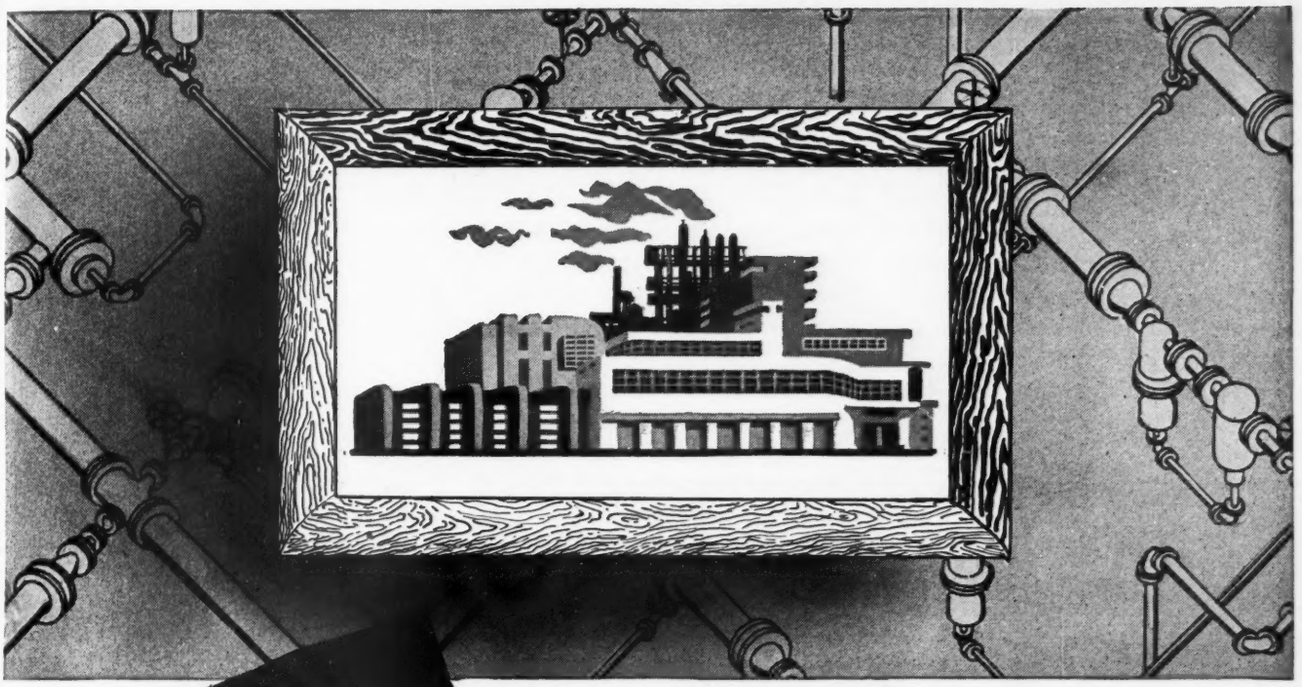
Many other advantages are explained in Bulletin OB-98. Write for a copy. Your supply house has R&I Chambers.

REFRACTORY & INSULATION CORPORATION

120 WALL STREET **NEW YORK 5, N. Y.**

Chicago 4, Ill. Philadelphia 3, Pa. Newark 2, N. J.

R&I COMBUSTION CHAMBER



VALVES

PIPE FITTINGS

Large Stocks at Low Cost

Valves and Fittings for practically every installation are available today through WAA. All are the products of leading manufacturers, made to the highest specifications. Prices are sensationally low. A percentage of these Valves and Fittings are used or non-standard and are being offered on competitive bid. Buy from any WAA Regional Office—delivery is prompt. Purchases totalling $300.00 or more may be made for your use or resale. All items offered subject to prior sale.

Valve sizes:	**¼ inch to 24 inches**
Fitting sizes:	**¼ inch to 36 inches**
Pressure ranges:	**100 pounds p.s.i. to 3,000 pounds p.s.i.**

While every Regional Office has a supply of Valves and Pipe Fittings, the largest inventories are located in these cities: San Francisco, New York, Chicago, New Orleans, Richmond, Los Angeles, Seattle, Houston, Boston, Philadelphia, Cincinnati, Jacksonville.

★ ★ ★

All Valves and Fittings are sold under existing priority regulations of WAA and of the National Housing Expeditor. Veterans of World War II are invited to be certified at the War Assets Administration Certifying Office serving their area, and then to purchase the materials offered herein.

EXPORTERS! Your business is solicited. Much material which is surplus in the United States is urgently needed or is readily salable in other countries. Watch for other offerings; many of them may be of interest to your clients.

OFFICE OF GENERAL DISPOSAL

1100

WAR ASSETS ADMINISTRATION

GOVERNMENT WAA SURPLUS

Offices located at: Atlanta • Birmingham • Boston • Charlotte • Chicago Cincinnati • Cleveland • Denver • Detroit • Grand Prairie, Tex. • Helena Houston • Jacksonville • Kansas City, Mo. • Los Angeles • Louisville • Minneapolis Nashville • New Orleans • New York • Omaha • Philadelphia • Portland, Ore. • Richmond St. Louis • Salt Lake City • San Antonio • San Francisco • Seattle • Spokane • Tulsa

fuel oil & oil heat

of the most promising oilheating markets in the country for a place of that size. Conspicuous among the city's 18 fueloil distributors is Alfred Loucks, who runs Home Fuel Oil Co. and has been active in the affairs of the state association. Loucks has a single-track operation thus far, selling only fueloil . . . no burners nor service . . . primarily because he has done well by working with burner dealers. He has his own bulk plant with storage capacity of 9,000 gallons for stove oil, 11,000 for furnace oil and 12,000 for residual. His 1946 volume was approximately 300,000 gallons of stove oil, 800,000 of furnace oil and 900,000 residual.

Operates Five Trucks

Five trucks are operated, of which one is a road oiler, with special equipment for pumping out tanks. Loucks' fuel supplier is Tidewater Associated.

The fueloil distributors working out of Salem cover about a 12-mile radius, and between them they serve 4,000 domestic central heating accounts and 13,000 stove oil accounts. The average central heating customer uses 1,200 gallons a season, and stove oil customers average 880 gallons. With almost no coal heating in the town, there are 104 gas heating jobs and 75 electric. New oilburners installed in 1946 numbered about 350, divided almost equally between pressure and vaporizing types. The burner dealers now have at least 1,000 burner orders on a cash deposit basis for installation this year.

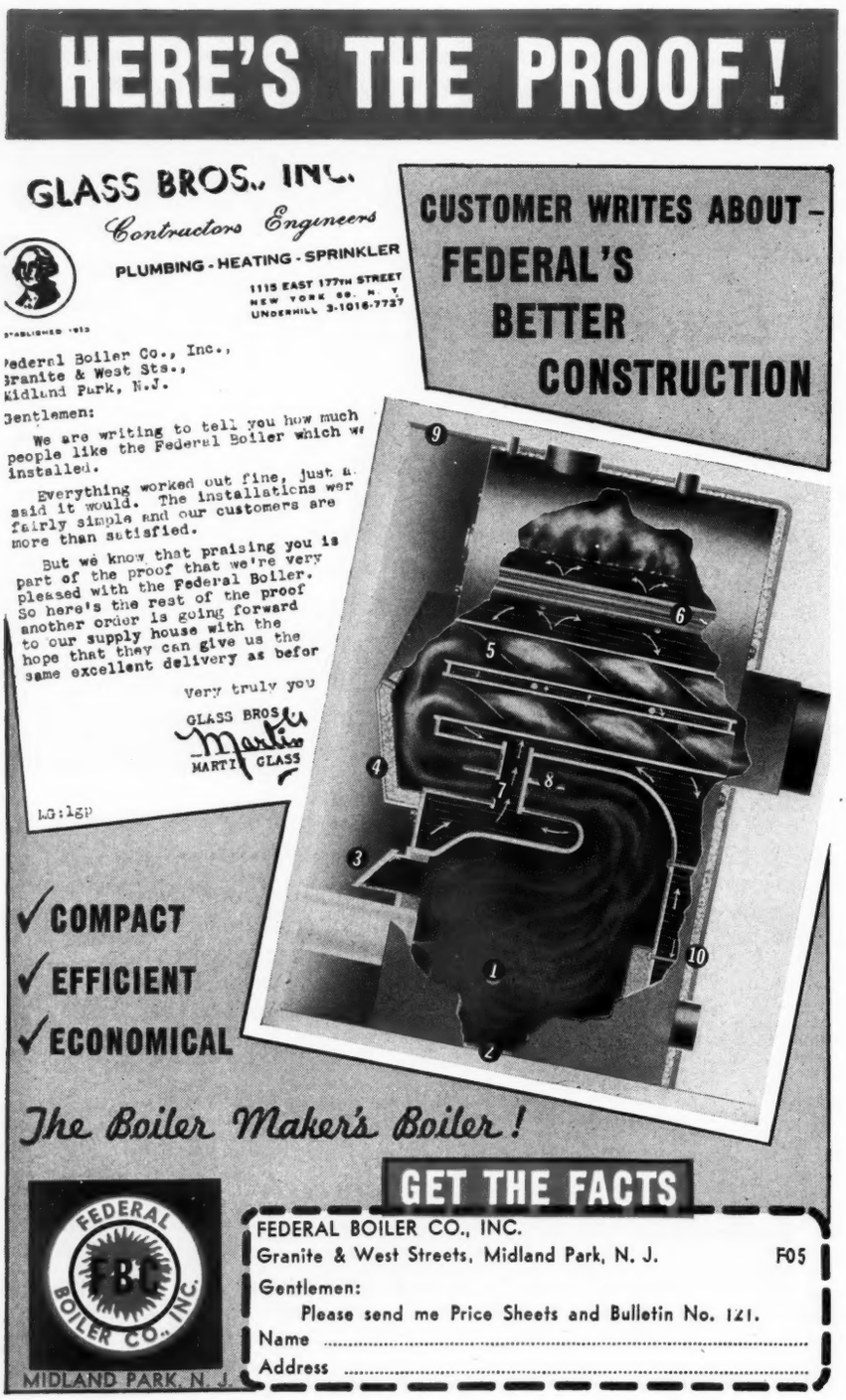
Sawdust and hogged fuel are still being used on a fairly large scale, and these users will supply a reservoir of oilheating prospects to insure good expansion for a number of years. The significance in Loucks' operation is its simplicity, its two million gallon annual volume in a small city that also supports 17 other fueloil men, its absence of competition from either coal or gas.

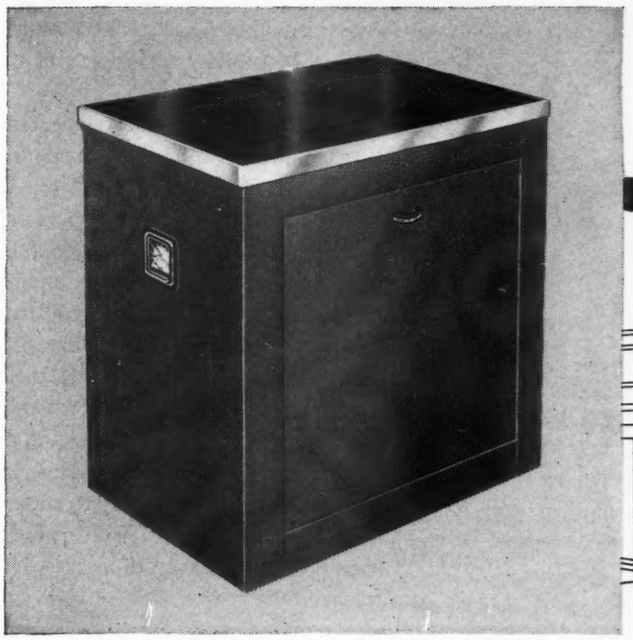
Seventh and last of the companies interviewed in this brief appraisal of Oregon's oilheating was Lin Bowman Co., Delco distributor for the state, and also getting a fairly strong start in the fueloil business. Lin Bowman heads the company, Carl Lenchitsky is sales manager and Albert Clark is service and installation manager. Delco burners are sold at retail in Portland and wholesale throughout the rest of the state. Bowman has an impressive showroom in the downtown business district, and is looked upon as one of the strong contenders for a good share of oilheating's growth in the years ahead.

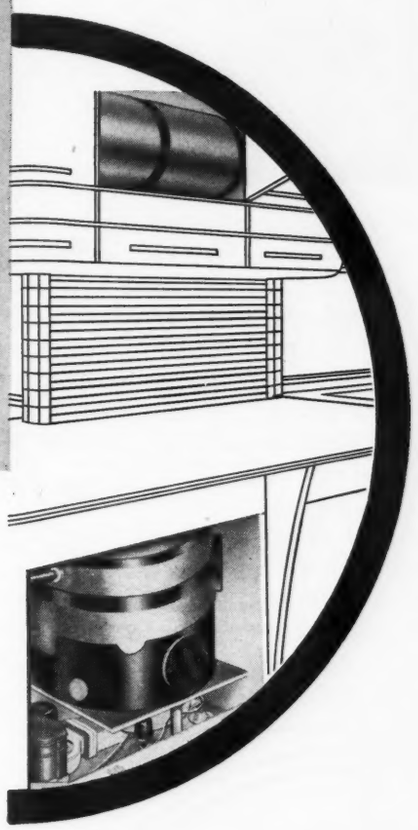
First Sold Oil in 1940

The company got into the oil business in a small way in 1940, when it bought a company that had only 140,000 annual gallonage. They raised this to a half million by the time the war froze them at that level, but since the war they have been able to build this to 1,200,000 gallons. Texas Company supplies the oil under its affiliated "Clipper" brand.

Bowman installed . . . to the end of 1946 . . . about 300 domestic burners since VJ-Day, but has assurance of getting around 1,800 in 1947, of which approximately 800 will go into Portland and the rest to other parts of the state. The new oil accounts that come with the local installations will give quite a boost to Bowman's gallonage. Because it is definitely unusual, or unorthodox, for a burner dealer in Portland to branch out into

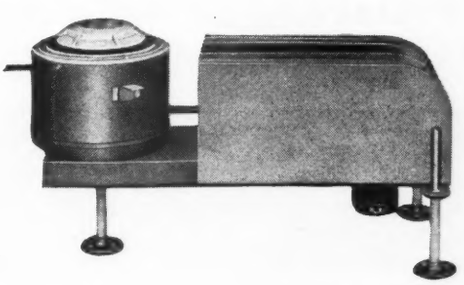

HERE'S THE PROOF!
GLASS BROS., INC.
Contractors Engineers
PLUMBING - HEATING - SPRINKLER
1115 EAST 177TH STREET
NEW YORK 60, N. Y.
UNDERHILL 3-1016-7727
CUSTOMER WRITES ABOUT – FEDERAL'S BETTER CONSTRUCTION
Federal Boiler Co., Inc.,
Granite & West Sts.,
Midland Park, N.J.
Gentlemen:
We are writing to tell you how much people like the Federal Boiler which we installed.
Everything worked out fine, just as said it would. The installations were fairly simple and our customers are more than satisfied.
But we know that praising you is part of the proof that we're very pleased with the Federal Boiler. So here's the rest of the proof. Another order is going forward to our supply house with the hope that they can give us the same excellent delivery as befor
Very truly you
GLASS BROS
MARTIN GLASS
LG:lgp
✓COMPACT
✓EFFICIENT
✓ECONOMICAL
The Boiler Maker's Boiler!
GET THE FACTS
FEDERAL BOILER CO., INC.
Granite & West Streets, Midland Park, N. J. F05
Gentlemen:
Please send me Price Sheets and Bulletin No. 121.
Name .....
Address .....
FEDERAL BOILER CO., INC.
MIDLAND PARK, N. J.





Heats an entire small home— yet fits in a kitchen cabinet

The MILLER SPIRALATING BOILER-BURNER UNIT fits in a kitchen cabinet. Heats automatically, 3 to 5 room homes, and provides a year-'round supply of hot water from the faucet. Comes complete, with all controls, and can be used with standard hot water radiators, new type base-board radiators or radiant heat panels. Features a new heating principle — the MILLER HEAT SPIRALATOR (exclusive) — which builds up a new high heat transmission per square foot of boiler surface. Burns a maximum of 8/10ths of a gallon of No. 1, 2 or 3 oil per hour at high fire.



Miller Conversion Burner

For 7 years this has met the requirements of small home owners converting to oil. Vaporizing type mechanical draft burner, complete with controls. Can be installed in warm air furnaces, or steam or hot water boilers. Underwriters' approved to burn No. 1, 2 or 3 oil — complete combustion of carbon on each operating cycle. Carries Commercial Standards Label CS75-42.

Franchises Available. Wire or Write Today!

THE MILLER COMPANY

Heating Products Division, Meriden, Connecticut

ILLUMINATING DIVISION
Fluorescent, Incandescent
Mercury Lighting Equipment

HEATING PRODUCTS DIVISION
Domestic Oil Burners
and Liquid Fuel Devices

ROLLING MILL DIVISION
Phosphor Bronze and Brass
in sheets, strips and rolls

fueloil & oil heat

Speaking *of unusual names, this sign was photographed beside an Oregon highway.*

delivering fueloil on a merchandising scale, Bowman's progress will be watched with considerable interest.

Oregon, and its big city, Portland, have become significant portions of the national oilheating market from a volume standpoint. However, the visitor gets an even stronger impression from sizing up the individuals that comprise the local industry. They seem particularly tolerant toward competition, show little annoyance toward competitive individuals. Each company seems to feel so secure in its own profit position, in its own future potentials, that there is little reason for competitive concern. Or perhaps it's the ever-present invitation of the evergreen mountains and the beaches and the salmon fishing, to get away and take it easier, that puts something into men to remove the normal business strain. Anyway, it's a nice place to do business.

◈

Canadian Oil Prices Up

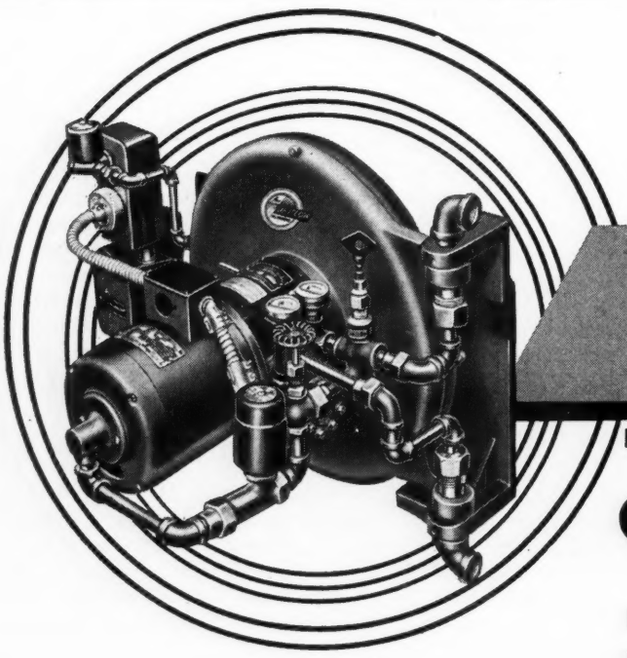
STOVE OIL PRICE IN Montreal jumped to 15 cents a gallon on March 28, 3-4 of a cent higher than previously and furnace oil increased by a similar amount to 11½ cents a gallon. Bunker oil went up 6-10th of a cent a gallon, bringing the price to 8 7-10ths cents a gallon. There was an intimation that in Toronto the price of stove oil will be a quarter of a cent lower than in Montreal and furnace oil a quarter of a cent higher.

The reason given for the increase in furnace and stove oil is to compensate in part for increased cost of crude oil. There will be relative advances in prices of fuel-oil used principally for industrial purposes. Decision has not been announced as to price changes in Western Canada.

A rumor is current that when the price ceiling comes off anthracite coal, the Montreal price will jump $3 a ton. This will bring it up to present New England prices. Anthracite in Philadelphia, close to the mines, sells for 50 cents a ton more than in Montreal, because Montreal dealers have not been allowed to increase charges for handling coal.

◈

Dr. Melville F. Peters has been appointed chief engineer and *Henry S. Elder,* vice president of Titeflex, Inc., Newark, N. J., manufacturers of all-metal flexible tubing.



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UNIFLOW

HORIZONTAL ROTARY

OIL BURNERS

FOR PERFECT HEAVY OIL BURNING
UNDER ALL OPERATING CONDITIONS

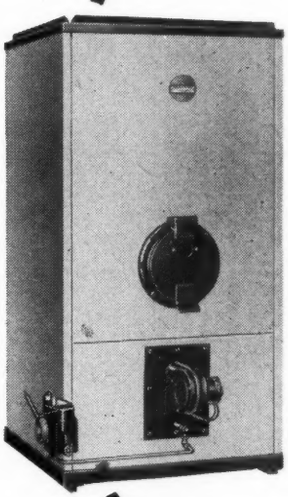
Models Available

	GALLONS PER HOUR	BOILER H. P.	SQUARE FEET STEAM RAD.
MINIMUM	2	6	800
MAXIMUM	165	500	64,000

ACE ENGINEERING CO.
1435 W. 15th Street • Chicago, Illinois

Custom Engineered Oil Burning Systems Since 1931

MEET THE *DEMAND* FOR OIL HEAT *with* MONCRIEF'S *new 1947 line*



Revolutionary achievements in design—construction—operation—installation—inspection and servicing—of Moncrief's new 1947 line of oil fired heating equipment are creating a sensation in the oil fired heating business.

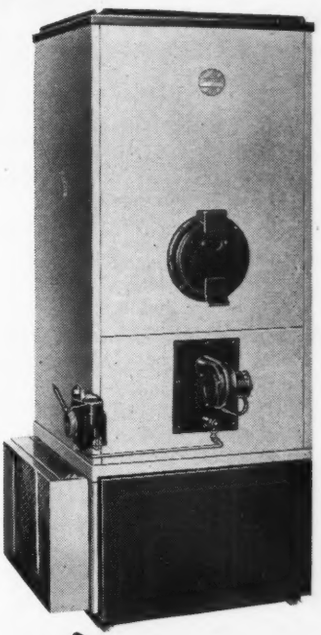
New cabinets with tight fitting floors that eliminate basement platforms or grouting . . . durable, steel heating elements with automatic, submerged arc welded seams . . . radiation shield that replaces noisy inner liners . . . are all new distinctive features.

Series "O" models are designed so that almost any standard, gun type burner can be installed easily in the large roomy vestibule. The radiator of tubular construction which can be readily cleaned inside and out by simply removing a single plate, is also an outstanding advantage.

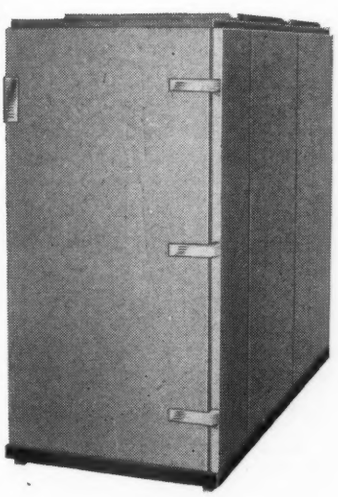
Vaporizing units have forced draft combustion . . . fuel line cleaning device . . . flame deflector of stainless steel . . . *and an outstanding engineering development*—an oil burner that is easily installed or removed as a *complete unit* without dismantling the combustion chamber or cabinets!

These new and outstanding features make Moncrief "TOPS" in oil fired heating equipment.

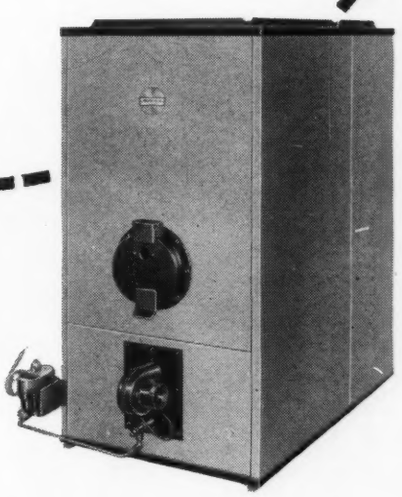
Write for complete details.



Series VW
Oil Fired, Steel
Gravity Unit



Series P
Oil Fired, Steel
Air Conditioning Unit



Series VU
Oil Fired, Steel Utility
Air Conditioning Unit

Series VL
Oil Fired, Steel
Air Conditioning Unit

THE HENRY FURNACE COMPANY • *Medina, Ohio*

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

Mid-Atlantic Fueloil Rations

IN THE FEBRUARY issue was a compilation of fueloil rations issued during the last war year, shown by OPA districts and regions. The Department of the Interior has now released a breakdown by individual boards and by counties for all of the Mid-Atlantic states.

The table shows county figures; for individual board data, write the magazine.

Only the domestic heating rations are shown in the table, those identified by Form R-1100, separated to central heating and space heating. As was explained in detail in the February issue, a lot of burners have been installed in these areas since the ration date. To bring the figures up to a point of January 1, 1947, add about 33.2%.

The actual number of distillate oilburners operating in any county is somewhat above these figures, because often a typical domestic type burner is installed in a small store or perhaps a four-family flat, and it will be recalled that rations for such buildings were issued at R-1101, rather than the private dwelling ration.

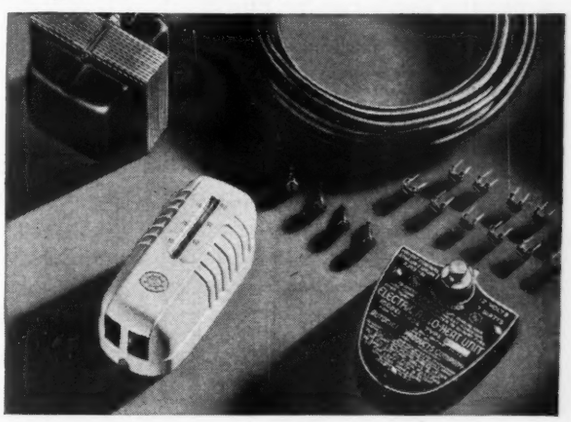
Domestic Fueloil Rations by Counties
MIDDLE ATLANTIC STATES

	R-1100 Central		R-1100 Space	
	Number Issued	*Average Gallons*	*Number Issued*	*Average Gallons*
NEW YORK				
New York District				
Bronx	16,818	2098.3	4,989	295.4
Dutchess	3,883	1620.7	8,868	544.4
Kings	46,968	1827.9	76,312	331.4
Nassau	35,557	1478.9	3,967	298.0
New York	2,332	1216.4	32,354	222.6
Orange	2,444	1617.1	5,048	387.7
Putnam	1,082	1293.1	754	494.4
Queens	63,783	1546.3	22,564	292.0
Richmond	5,611	1575.4	7,636	348.3
Rockland	2,795	1672.7	2,974	430.3
Suffolk	9,027	1350.3	8,866	376.6
Westchester	35,879	1989.5	14,029	379.6
Albany District				
Albany	4,604	1591.5	14,486	485.9
Clinton	631	1732.8	3,284	645.1
Columbia	848	1787.9	3,310	598.2
Essex	665	1773.6	2,595	501.1
Franklin	1,027	1549.8	2,642	516.8
Fulton	1,196	1614.3	3,892	718.0
Greene	679	1751.9	2,300	549.7
Hamilton	140	1559.4	282	450.5
Montgomery	1,024	1579.9	4,402	475.6
Rensselaer	1,446	1493.9	8,264	450.0
Saratoga	1,617	1614.0	6,008	516.7
Schenectady	4,465	1619.8	3,256	481.7
Schoharie	411	1645.6	1,576	492.2
Ulster	2,507	1717.4	6,718	456.2
Warren	1,239	1540.8	1,914	522.8
Washington	157	1595.1	2,702	451.4
Buffalo District				
Allegany	191	1464.6	735	431.4
Cattaraugus	358	1378.2	2,132	553.3
Chataugua	533	1558.7	3,378	531.1
Erie	5,584	1448.5	17,798	633.1
Genesee	442	1527.4	1,773	495.1
Livingston	533	1615.2	2,546	375.5
Monroe	9,957	1397.5	6,876	255.4
Niagara	4,461	1390.0	7,201	466.7
Orleans	296	1710.8	1,370	427.4
Wyoming	211	1667.9	1,117	609.5
Syracuse District				
Cayuga	556	1618.3	3,755	405.8
Herkimer	1,100	1661.0	3,381	462.1
Jefferson	1,209	1686.3	4,406	436.3
Lewis	203	1622.3	741	487.5
Madison	651	1607.9	2,556	434.0
Oneida	3,322	1618.8	14,957	427.8
Onondaga	2,737	1524.8	8,164	461.3
Ontario	586	1842.4	2,153	521.4
Oswego	520	1606.6	3,888	436.3
St. Lawrence	1,139	1321.8	3,608	643.3
Seneca	119	1663.7	1,728	471.0
Wayne	771	1372.3	2,492	407.0
Binghamton District				
Broome	1,076	1327.3	2,331	343.2
Chemung	436	1611.1	1,615	395.1
Chenango	424	1770.6	1,281	499.6
Cortland	146	1774.2	1,093	590.7
Delaware	656	1244.9	1,317	491.9
Otsego	558	1807.7	1,812	554.1
Schuyler	78	1207.7	435	512.6
Steuben	530	1568.9	2,273	493.3
Sullivan	1,120	1721.7	870	369.3
Tioga	220	1601.3	815	380.4
Tompkins	467	1608.2	1,713	415.6
Yates	152	1409.1	663	392.1
NEW YORK TOTAL	290,177	1662.6	368,965	403.6
NEW JERSEY				
Camden District				
Atlantic	4,850	1389.2	3,773	319.8
Burlington	3,408	1534.9	4,158	479.0
Camden	12,191	1157.6	5,428	339.9
Cape May	1,708	1226.6	4,730	443.8
Cumberland	4,113	1033.6	3,969	329.7
Gloucester	3,536	1306.0	4,509	309.1
Salem	2,439	1138.6	5,354	435.2
Newark District				
Bergen	30,146	1507.8	9,258	432.7
Essex	33,562	1869.5	39,149	364.8
Hudson	10,385	1840.3	54,351	418.3
Morris	5,720	2196.1	4,800	414.7
Passaic	7,860	1570.6	23,686	449.5
Sussex	1,415	1641.7	2,128	430.5
Union	17,370	1725.1	9,300	432.7
Trenton District				
Hunterdon	1,159	1573.0	2,982	444.0
Mercer	6,896	1558.0	7,671	259.4
Middlesex	6,862	1470.9	12,179	481.1
Monmouth	9,981	1413.1	11,825	408.0
Ocean	2,284	1131.9	4,140	375.3
Somerset	2,925	1577.4	1,712	461.5
Warren	1,168	1313.6	1,962	404.4
NEW JERSEY TOTAL	170,278	1568.0	218,755	401.9
PENNSYLVANIA				
Altoona District				
Bedford	43	2225.8	178	99.2
Blair	62	1430.2	396	103.0
Cambria	7	1885.7	917	108.4
Clearfield	48	1991.7	299	92.6
Fulton	12	1350.0	27	197.6
Huntingdon	105	1809.5	250	163.9
Indiana	3	2366.7	71	171.8
Jefferson	4	1345.0	27	185.9
Somerset	11	1775.0	295	147.2
Erie District				
Clarion	1	1800.0	48	262.4
Crawford	187	1438.6	1,289	352.1
Erie	988	1556.2	3,727	471.5
Forest	6	1316.7	39	375.4
Mercer	115	1359.0	398	358.2
Venango	30	1116.3	199	466.0
Warren	77	1619.9	647	421.0
Harrisburg District				
Adams	275	1599.9	867	350.5
Cumberland	1,162	1507.1	1,643	298.3
Dauphin	1,853	1520.7	2,276	141.1
Franklin	539	1484.6	1,013	367.4
Juniata	54	800.6	138	361.0
Lancaster	3,119	1466.2	3,980	241.8
Lebanon	373	1588.6	651	233.6
Mifflin	481	861.4	432	284.3
Perry	85	1547.6	374	267.5
York	3,289	1423.0	4,520	258.9

	R-1100 Central		R-1100 Space	
	Number Issued	*Average Gallons*	*Number Issued*	*Average Gallons*
Philadelphia District				
Berks	3,106	1422.1	2,649	182.8
Bucks	4,119	1479.3	4,442	322.0
Chester	3,507	1558.8	3,361	290.6
Delaware	23,698	1294.3	5,441	254.1
Lehigh	2,530	1478.2	1,808	223.4
Montgomery	11,713	1587.3	3,381	112.1
Northhampton	1,881	1541.4	3,287	351.2
Philadelphia	70,187	1231.6	26,788	133.6
Pittsburgh District				
Allegheny	446	1332.6	830	203.2
Armstrong	24	1120.2	51	396.9
Beaver	66	918.3	324	182.1
Butter	38	1170.8	867	442.5
Fayette	11	858.3	293	167.6
Greene	..	..	16	238.1
Lawrence	18	1196.1	107	245.4
Washington	22	1094.5	96	218.2
Westmoreland	130	711.7	402	190.0
Scranton District				
Carbon	11	1559.1	39	78.5
Columbia	32	1784.3	161	113.0
Lackawanna	7	1322.9	243	56.8
Luzerne	27	1082.9	711	57.4
Monroe	400	1505.4	281	313.4
Pike	141	1269.8	170	334.0
Schuylkill	2	650.0	43	94.2
Susquehanna	96	1158.4	219	260.2
Wayne	84	1800.0	105	69.6
Wyoming	66	1556.7	42	393.2
Williamsport District				
Bradford	253	1400.6	577	404.5
Cameron	18	1558.6	65	276.1
Centre	269	1390.8	287	141.8
Clinton	71	1828.0	290	166.2
Elk	10	1197.4	74	183.2
Lycoming	357	2215.4	904	122.1
McKean	275	1592.9	535	359.1
Montour	..	..	42	43.9
Northumberland	98	2441.7	61	293.0
Potter	5	1720.0	130	576.5
Snyder	50	1340.0	..	..
Sullivan	8	1437.5	8	465.0
Tioga	129	1024.8	400	367.4
Union	54	1477.2	39	414.1
PENNSYLVANIA TOTAL	136,961	1329.0	84,541	224.9
MARYLAND				
Baltimore District				
Allegheny	7	1230.0	133	211.7
Anne Arundel	3,035	1142.9	5,728	255.6
Baltimore City	64,349	1160.3	62,607	198.9
Calvert	73	1262.2	600	320.7
Caroline	181	1561.6	1,224	448.2
Carroll	439	1407.0	1,775	273.3
Cecil	477	1221.9	2,082	314.8
Charles	519	840.7	1,185	472.4
Dorchester	323	1517.5	1,620	442.6
Frederick	571	1388.9	1,199	264.8
Garrett	3	561.7	..	..
Harford	915	1476.0	2,555	362.5
Howard	514	1260.6	798	346.8
Kent	211	1426.5	1,287	271.9
Montgomery	9,853	1252.0	1,123	286.7
Prince George	7,751	1089.1	2,378	157.5
Queen Anne	203	1730.9	864	315.7
St. Mary's	95	1493.9	923	431.3
Somerset	126	1563.9	906	355.2
Talbot	483	1549.8	1,382	460.1
Washington	598	1490.6	1,181	271.4
Wicomico	927	1292.9	3,190	359.3
Worcester	274	1523.8	1,334	459.0
MARYLAND TOTAL	91,927	1179.9	96,074	248.6
DELAWARE				
Wilmington District				
Kent	634	1411.7	2,411	365.8
New Castle	10,095	1373.3	8,488	271.7
Sussex	1,514	1321.6	4,484	442.6
DELAWARE TOTAL	12,243	1369.0	15,383	336.3
WASHINGTON, D. C.				
Washington	30,518	1116.0	11,377	178.0
GRAND TOTAL	732,104	1370.7	795,095	298.8

● You can install THERMOSTATIC Temperature Control on most of the oil heaters you have sold since 1939! That means extra profits on every sale you made during the last 8 years!

Most of your oil heater customers — even those as far back as 1939 — can enjoy the luxury and economy of A-P THERMOSTATIC Temperature Control. And NOW is the time to tell them about it, when their heaters are inactive during the summer months. If their heater uses the A-P Constant Level Oil Control Model 240-DR, UR, or YR you can easily and inexpensively install a new A-P Model 240-ED Heat Regulator Set. They'll thank you next winter, when their fuel bills run 10% to 25% lower, and they're enjoying the pleasure and convenience of steady, uniform heat without the danger and discomfort of overheating — at the mere setting of a *thermostatic dial.*



The A-P DEPENDABLE Model 240-ED Heat Regulator Set. Includes an Electric Conversion Top to mount on present Manual Control, accurate Wall Thermostat, Transformer and all accessories and instructions.

WRITE TODAY for details and prices — and supply of colorful direct mail folders to help you to ready SUMMER PROFITS on A-P Heat Regulator Sets.

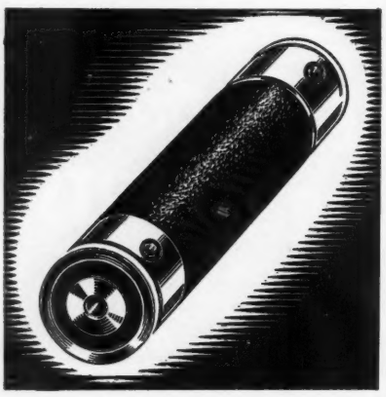
Be sure your new heater lines use · · · A-P DEPENDABLE OIL CONTROLS — for faster sales, greater customer satisfaction.

AUTOMATIC PRODUCTS COMPANY
2458 North Thirty-Second Street, Milwaukee 10, Wisconsin

ap DEPENDABLE *Oil Controls*

DESIGNED TO ELIMINATE SERVICING

CORRECT EXTREME MISALIGNMENT AT LOW COST



ONE PIECE RUBBER FLEXIBLE COUPLING

DAMPENS NOISE AND VIBRATION—
CUSHIONS STARTING TORQUE

◀ RUBBER FROM END TO END ▶
NEOPRENE REINFORCED WITH NYLON

FLOATING BUSHINGS

Machined brass bushings are not integral with ferrule—To allow floating action—No die castings

New!

Cylindrically Ground On Center — Concentricity Assured

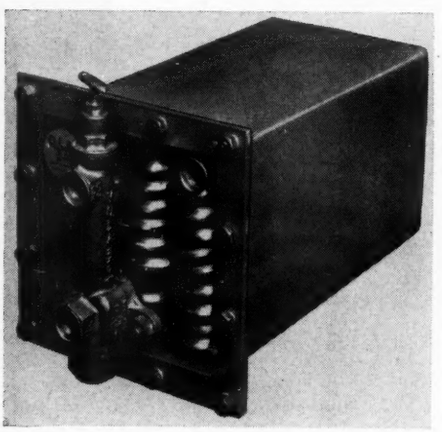
Lengths—1½" to 10"
Bores—5/16", ⅜", 7/16", ½", ⅝", ¾", 1"

Flexible Coupling Mfg. Co.
6220 South Ellis Ave.
Chicago 37, Ill.
Phone DOR. 2350

New Products

Water Heater Has Mixing Valve in Head

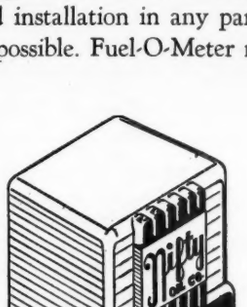
A COMBINATION MIXING VALVE IN HEAD HEATER, to be used without storage tank,



has been announced by Yula Water Heaters, Inc., New York, N. Y. Domestic cold water enters the coil and travels through seamless drawn copper tubes, while boiler water enters the heater shell and flows freely between and around the tubes. The coil is removed easily for cleaning, and the mixing valve can be set at any desired temperature between 140° and 180° F. The mixing valve is a thermostatic three-way valve, whose bellows is protected by copper tube casting to avoid kinking, breaking or jamming. The valve requires no separate by-pass and complete hot water shut-off is a safety feature.

Fuel-O-Meter Tank Gauges

FUEL-O-METER hydrostatic gauges for both inside and outside fueloil tanks recently were introduced by Sid Harvey, Inc., Valley Stream, N. Y. The gauge's compact size, neat design and ease of installation make it suitable for mounting in the living quarters of the home. The gauge is connected to the tank by ⅛" copper tubing, which can be concealed in the wall, and installation in any part of the home is possible. Fuel-O-Meter measures



2⅝" wide, 3⅞" high and 1⅞" deep, about the size of a thermostat, and is finished in silver bronze to harmonize with the thermostat should it be desired to install them side by side. The gauge operates on the hydrostatic principle used in the best types of distance reading models, and is available for tanks of 42", 44" and 48" depths. Name plates, with oil suppliers names can be attached to the gauge, and are available at slight additional cost.

All-Purpose Draft Gauge

MODEL MZF, all-purpose draft gauge, supplied with 9 ft. of rubber tubing and a 5" metal sampling tube, is announced by Bacharach Industrial Instrument Co., Pittsburgh 8, Pa. The gauge features a large area diaphragm enclosed in a metal housing and can be read easily and accurately, .25" range on a 3" wide scale. The gauge provides readings at the point of draft measurement or may be placed any distance away from the test point. The

compact instrument, 4¾" wide by 7½" high by 3" deep, can be set on any flat surface or hung on the wall. Zero adjustment is possible without removing any parts.

Hydro-Static Oil Gauge

BILLDT ENGINEERING CO., Seattle 88, Wash., is producing a hydrostatic oil level gauge, adaptable to all above ground fuel-oil storage tanks up to 50" vertical diameter, regardless of shape. Liquid loss from gauge or tank is prevented by venting the gauge into the tank. The gauge is said to withstand a hydrostatic pressure in excess of 25 lbs. per sq. in. to conform with Underwriters' code requirements. Billdt-Master gauges can be installed on tanks not designed to accommodate gauges with

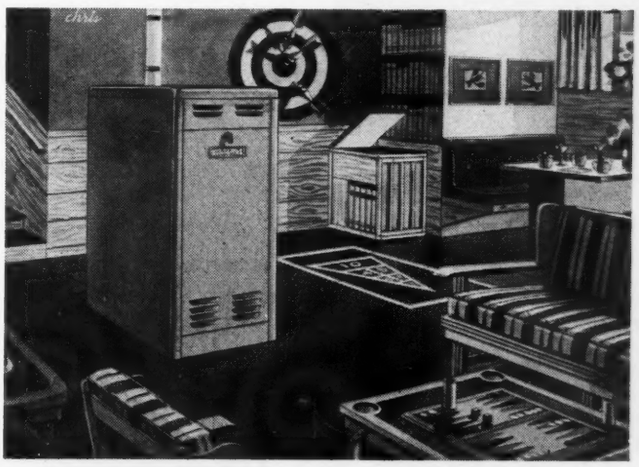
1½" or 2" bushings by drilling the tank with a 7/16" tap drill and tapping with a ¼" pipe tap. This accomplishes a rigid installation, even in 55 gal. drums. A valve on the gauge permits use with basement tanks where the fill pipe is above the level of the gauge.

Silver soldered copper and brass parts, with exception of a steel bushing and plastic indicating tube, are used. Error due to expansion and contraction of oil and air in the gauge is said to be negligible.

Steel Firebox Designed For Easy Installation

STAR STAINLESS STEEL fireboxes, manufactured by Mechanical Products Co., Seattle 4, Wash., have a combustion capacity from 1 to 1.65 gph to fit most domestic burner installations, on new jobs or replacements. Shipping weight of the box is about 12 lbs. and sections are made

FOR ECONOMICAL QUICK HEAT



KOVEN
WATERFILM BOILERS

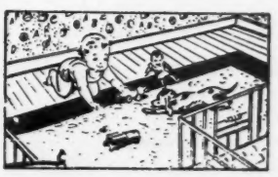
KOVEN keeps pace with the latest in housing by supplying the latest in heating... the KOVEN WATERFILM BOILER. Home-owners want its economical, dependable performance... its trim, modern appearance.

A scientific achievement, the patented construction of the KOVEN WATERFILM BOILER is designed to supply quick, uniform heat and an abundance of domestic hot water at all times.

Leading architects and builders specify—the KOVEN WATERFILM BOILER—for low-cost operation and attractive styling.

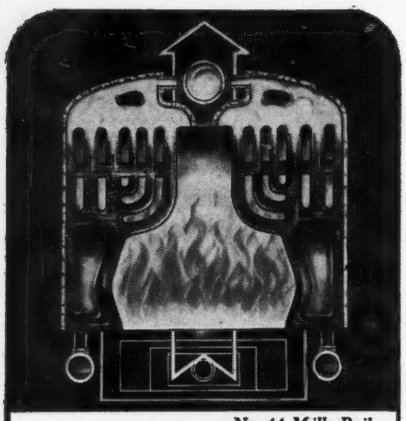
Made for automatic firing with oil, stoker or gas. Available in several models adapted to small homes, apartment houses or industrial plants. Write for detailed information.

Even Room Temperature



Throughout the House!

WATERFILM BOILERS, Inc.
154 Ogden Avenue, Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.
Listen to the WATERFILM Broadcast "Vaudeville Isn't Dead"
Mon., Wed., Fri. at 7:45 P.M. and Sun. at 12:15 P.M. Station WNEW



No. 44 Mills Boiler

Everything's on the up and up!

When water gets hot it wants to go *up*, and it naturally takes the easy way up — the vertical way — if given a chance. That's why H. B. Smith Cast-Iron Boilers are designed with *vertical* water tubes, for faster water circulation, faster steaming.

There's another important reason for this vertical construction . . . soot won't cling to a smooth, vertical surface. So H. B. Smith sections are practically self-cleaning; the soot-free heating surface takes maximum heat out of the hot flue gases. Within the *vertical* water tubes, any foreign deposits flow freely to the return drums from which they are easily flushed.

That's the vertical story. For more important reasons why professionals recommend H. B. Smith Cast-Iron Boilers for industrial, institutional, commercial and home heating, write for your free catalog.

H.B. Smith

CAST-IRON BOILERS

THE H. B. SMITH CO., INC., 68 Main St., Westfield, Mass.

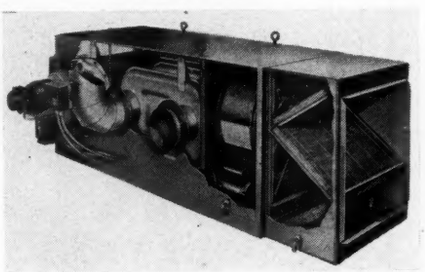
Offices and Representatives in Principal Cities

so that they pass through any furnace door opening that measures 11" or more across diagonal corners. No fire brick or refractory is required.

Constructed of 20-gauge stainless steel, the firebox is shaped to fit the burner flame. Heat radiates from the sides and bottom of the firebox and it is said to reach its peak temperature within one minute and to cool equally as fast.

Suspended Furnace Unit Saves Floor Space

DESIGNED TO SAVE FLOOR SPACE, Superfex Model 550 suspended oil furnace, developed by Perfection Stove Co., Cleveland, Ohio, has a rated output of 200,000 Btu/hr. The unit, fired with a high pressure



atomizing burner, provides warm air heat from an axial flow burner. Whenever heat is needed, a thermostat starts the burner and turns on the blower, and when the thermostat has been satisfied the blower drops back to low speed, continuing to utilize the heat in the furnace.

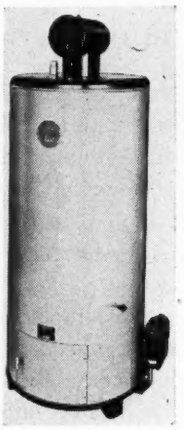
The unit weighs 650 lbs. and can be suspended from existing ceiling beams or girders without additional structural support. The burner has been approved for No. 3 oil and filters clean the air as it is introduced into the unit for heating.

Red Wing Burners Made In Five Sizes

RED WING gun type oilburners, a product of Red Wing Oil Burner Co., Chelsea, Mass., are offered in five models, firing capacities ranging from a minimum of ¾ gph to a maximum of 30 gph. Of conventional design, the burners have flexible couplings between motor and fan, flange type motors and radio-proof, continuous duty type transformers. Firing cone is removable and the entire electrode assembly is readily accessible. Adjustable legs permit the burners to be raised or lowered for proper alignment with firebox doors.

Conco Water Heater Built In Two Sizes

AN OILFIRED WATER HEATER, offered by Conco Engineering Works, Mendota, Ill., is available in two models. WH-3 has a tank capacity of 25 gals. and WH-5, 45 gals. The steel one-piece tank is entirely welded and galvanized, is factory tested and subjected to high pressure tests.



The heaters are equipped with Field barometric draft controls and cabinets of pressed and rolled copper bearing steel are bonderized with silver grey hammerloid finish and contrasting black trim. Cabinet dimensions for the WH-3 model measure 51½" high, 18¾" wide; WH-5 model, 51½" high, 22¾" wide.

Horizontal Rotary Burner Announced by HiLine

A HORIZONTAL ROTARY CUP oilburner, with a capacity range from 5 to 40 gph, is a product of HiLine Associates, Seattle 8, Wash. The burner can be installed as a manually operated unit or can be adapted for completely automatic modulating operation. The burner is complete with integral pump, pressure fan and atomizing cup. Motor and belt can be removed easily and quickly and oil feed line cleaning is possible in five minutes. The unit features a large capacity, low speed pump and its construction has eliminated excessive parts and discarded heavy, clumsy castings for lighter castings of high grade material.

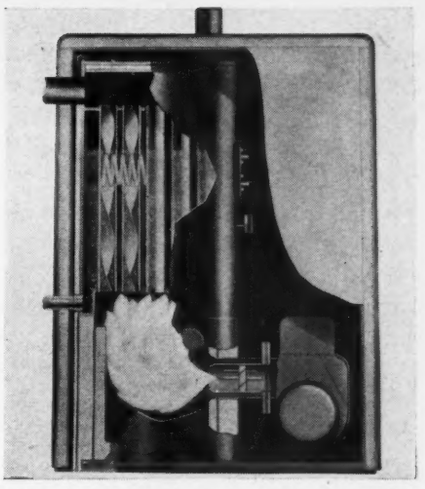
Delta-Meter Electric Oil Level Indicator

DELTA-METER electric oil level indicators are being distributed by National Combustion Co., Inc., New York 17, N. Y. The meter, which operates on 6 volts, consists of a sender unit with float which is installed in the oil tank, an indicating unit or gauge mounted on a steel panel. The

two units are connected electrically. To obtain a reading, a button on the gauge panel is pressed. It is only at this time that current is consumed, which is normally supplied by ordinary dry cells. The sending unit comes in several sizes to accommodate different types and sizes of fueloil tanks. The gauge panel can be mounted in any part of the house or basement.

York Vertical Boiler Units

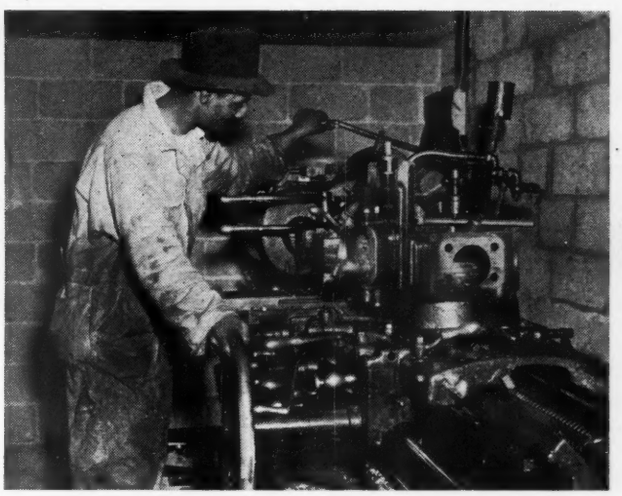
RESIDENTIAL DIVISION, York-Shipley, Inc., York, Pa., has introduced a redesigned line of vertical boiler-burner units, with capacities ranging from 134,000 to 200,000 Btu/hr for hot water, steam or vapor systems. The boiler is oilfired, burner firing from 1.35 to 2 gph, with burner and controls located inside the removable front panel. Additional vertical tubes added to the new models increase heating surface



and utilize spiral baffles to radiate additional heat. The baffles can be used also as

SILENT-FLAME OIL Burners

MODEL "M"



MODEL "B"

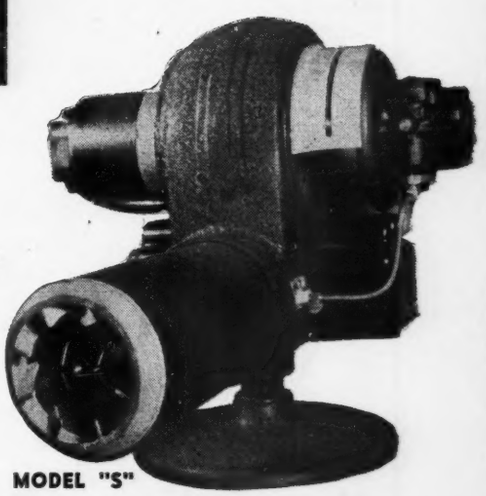
MODEL "F"

OFTEN IMITATED BUT NEVER DUPLICATED

Silent-Flame Oil Burners are the product of over 30 years of oil heating experience. Models from 1 gallon-per-hour to 20 gallons-per-hour.

Standard Equipment. Precision Built.

A limited number of Agencies available in key locations for domestic and foreign territories.



MODEL "S"

SILENT-FLAME MFG. CO., Inc.

807 ZEREGA AVENUE . . . . . New York 61, N. Y.

fueloil & oil heat

tube cleaners. Combustion chamber can be slid out of the front of the unit without disconnecting any piping or raiding the boiler.

An instantaneous coil located horizontally in the upper part of the boiler provides domestic hot water. Coils are protected against electro-chemical action by a special coating on the coil exterior. The coils can be removed easily for cleaning through a plate in the boiler front.

Teesdale Type 3-S Pump

TYPE 3-S pump announced by Teesdale Mfg. Co., Grand Rapids 3, Mich., consists of an oil pump unit and a ⅜" diameter shaft with seal collar. The pump is a helical gear type, with a by-pass valve operating in a bronze sleeve, designed to give positive cutoff. The conventional design mechanical seal has a bronze collar on the shaft, with the hardened steel surface mounted on an oil proof fabric diaphragm.

With capacities of 22 gph, 15 gph at by-pass at 100 lbs. pressure, the unit is designed for a shaft speed of 1725 rpm, nozzle capacity of 12 gph at 100 lbs. pressure. It pulls a vacuum of 25", has strainer capacity of 5 gph and maximum design pressure of 160 lbs.

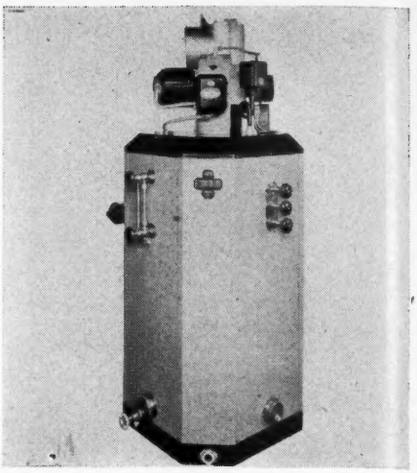
Installation instructions detail procedure for one and two line installations.

Gunk Now Shipped As Super Concentrate

GUNK, long used for degreasing and decarbonizing, as developed by Curran Ordnance Laboratory, Lawrence, Mass., now is shipped in a concentrated form which may be diluted with as much as 20 to 100 parts of diesel fuel or kerosene. Gunk self-emulsifying solvents are available in single gallon cans, steel pails and drums.

Econolux 150-V

S. T. JOHNSON CO., Oakland, Cal., has announced the Econolux 150-V, oilfired boiler-burner unit, fired with a Bankheat gun type burner. Output is rated at 150,000 Btu/hr. The burner fires downward from the top of the unit, through the central combustion cylinder, forcing hot



gases back up through 13 fire tubes to complete a 2-pass action. Domestic hot water is supplied by means of a double jacket encircling almost the entire outer surface of the main boiler. The extra shell forms a separate compartment or tank, with a storage capacity of 10 gals. When additional hot water is required, it is provided almost instantaneously when the 1" sheet of water in the separate compartment is exposed to the hot shell of the main boiler. (*Continued on page 130*)

THRIFT -T- HEAT

•

Jet Flame

In the field of high efficiency automatic heating this name stands out.

WHECO offers the most advanced oil burners, precision tooled, noiseless, clean, troublefree and economical. Made by old timers who know how.

We can only ship small orders at present

•

Write for Details today

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W H E CO.

WESTCHESTER HOME EQUIPMENT CO.

432 AUSTIN PLACE

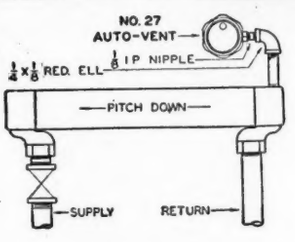
New York, N. Y.

HOW TO GET PERFECT CIRCULATION in Hot Water Radiators and Convectors

AUTO-VENT AIR ELIMINATORS REALLY DO A JOB!

As air accumulates in radiators or pipes, it is AUTOMATICALLY VENTED when you use these inexpensive No. 27s. Your customer gets better heating and saves fuel.

AUTO-VENTS work equally well on convectors, baseboard radiation, panels, radiant heating coils, etc. — NO AIR CHAMBER REQUIRED. Good for pressures to 50 lbs. *See your jobber, or write us direct.*



SIMPLE AS A-B-C

Detailed drawing of No. 27 Auto-Vent Air Eliminator operating on convector radiator. Auto-Vents used on other types of jobs are just as easily installed — and no attention required.

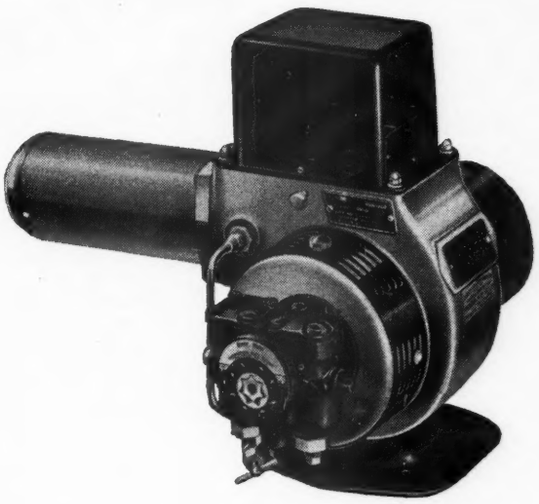
MAID-O-MIST INC.

3221 N. PULASKI RD.

CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

'cellars' market



The seller's market in oil burners was fun while it lasted . . . but we're back in the "cellars" market now. Every cellar without an oil burner is a prospect and a challenge . . . a place to begin building new business from the ground up.

In the best cellars everywhere, the best **sellers** will again be QUIET MAY quality-made oil burners. Some dealerships are available . . . write for details.

MAY OIL BURNER
division of GEROTOR MAY CORPORATION
Maryland Ave. & Oliver St., Baltimore 3, Md.

QUIET MAY OIL BURNER

HEATS FASTER
SELLS FASTER

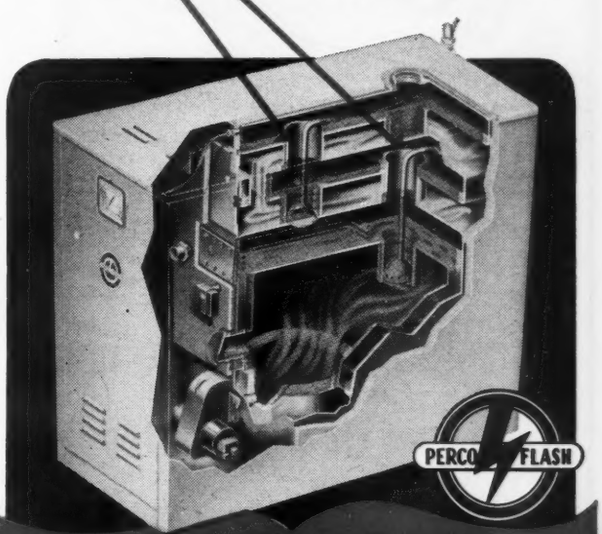
PERCOFLASH

The Flash Action BOILER

with the NEW Percolating Principle

What boilers will discriminating buyers choose when they're in the driver's seat once again? You can be certain of sure sales for PERCOFLASH, the unique, scientifically-designed and thoroughly tested boiler that heats in amazingly fast time—giving all benefits of low-cost steam or water heating and long, trouble-free life.

The PERCOFLASH patented percolater construction heats water faster than any other practical means. It's today's great new boiler development, by an experienced maker of quality heating products. Grow with PERCOFLASH. Get full details today!



WESTCOTT-ALEXANDER, INC.
MADISON, NEW JERSEY

PERCOFLASH

THE *finest* BOILER for OIL, GAS, or STOKER

Furnished in one size only, the unit is designed for either gravity or forced hot water heating systems and can be supplied with modulated flow controls for application to panel heating systems. Refractory lining in the base can be replaced without dismantling boiler. Flue outlet, located at top rear of boiler, is 8" diameter.

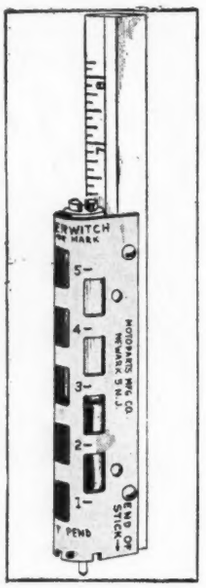
Plastic Adhesive Developed

SAMUEL CABOT, INC., Boston, Mass., has developed a technique called "Sandwich Adhesion," for joining metals, glass, rubber, and plastics to withstand a shearing stress of more than 200 lbs. per sq. in. Plasgon is spread over each surface to be joined and a layer of fabric is inserted between. The bond is pressed firmly together and allowed to set for 48 hours. The result is said to be a flexible joint, not affected by gas, oil, kerosene, water or other common solvents. Nor is it affected by heat, shock or vibration.

If porous surfaces are to be joined, or a porous surface to a non-porous surface, the solvent in Plasgon will dry out through the porous material and the fabric layer is not necessary.

Gauge Measures Depth Of Water In Oil Tank

WATERWITCH, a simple device fastened to the top of a tank stick, shows the actual amount of water in an oil tank in inches. The gauge is constructed of non-sparking solid brass, Neoprene seat, clear-view Pyrex glass which can be removed easily for cleaning. Marked in inches to correspond with the tank stick, the device shows up to 5" of water. Two models are available, model 50P, illustrated, screws permanently into the tank stick; model 51C is a clamp-on type, quickly detachable for changing from one stick to another. Motorparts Mfg. Co., Newark 5, N. J., offers the gauge.



Quiet Automatic Offers Line of Gun Burners

A LINE OF GUN TYPE oilburners, offered by Quiet Automatic Burner Corp., Newark 4, N. J., are available in six models with maximum ratings ranging from 2.25 to 22 gph. The high pressure atomizing oilburners are equipped with standard parts, motor sizes varying from 1/8 hp for the smaller models to 1/2 hp for the largest burner.

The Turbulator, a device to produce a whirling flame of controlled shape and size making the burner adaptable to round and square boilers, and the Periferator, to prevent choking and oil waste, combine to make the burner efficient, says the manufacturer.

Faucet Gauge For Oil Drums

A FAUCET GAUGE for use in oil drums, 30 to 55 gals. capacity, that does not have to be removed to fill the drum, is being manufactured by Bearlee Products, Green Bay, Wis. The gauge registers in gallons, is constructed of precision built aluminum casting with specially treated float. Since the gauge is in view between the barrel

FROM THE MALE OF THE MONTH

ROTOFLAME

Dear John,

Pop always said women are queer cusses. My Aunt Lou is blaming me for her and cousin Jim not speakin.

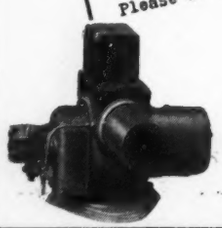
That ROTOFLAME I put in for her last year was a big success, but there the trouble started, like they say too much efficiency can be too much yes siree.

Aunt Lou always took oil from cousin Jim Wilson so when she stopped taking so much oil after I installed the new ROTOFLAME he figured she was trading with someone else on the Q.T.

Now they aren't speakin, and that's unusual for Aunt Lou. You can see the fix I'm in. The manual don't give me any relief from this problem.

Please advise by return mail.

Your faithful representative,
Earl Heeter
Specialist in Oil Burner Repairs



Exclusive territories available for well-established dealers

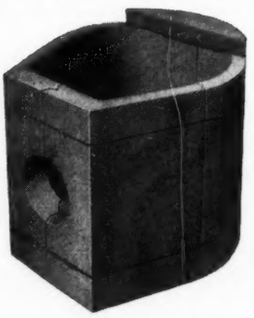
OIL EQUIPMENT LABORATORIES, Inc. ELIZABETH 4 NEW JERSEY

truly TIME-TESTED

FOR

"QUICK HEAT UP"

DISCOVER PROVEN UNMATCHED ADVANTAGES



COMPLETE INSTALLATION IN ONE STURDY WOODEN BOX

Patent No. 2075433

USE

LITE-CAST

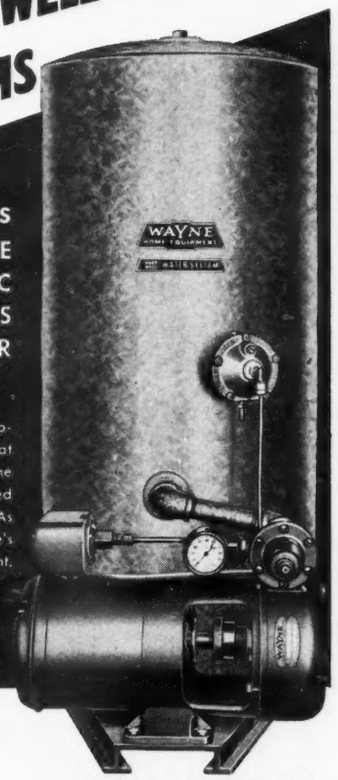
THE COMBUSTION CHAMBER LEADER SINCE 1934

WRITE US AND LEARN WHY SO MANY INSIST ON THIS SCIENTIFICALLY DESIGNED, QUALITY CHAMBER

MONOGRAM COMBUSTION CHAMBER CO.
PHILADELPHIA 4, PA.

WAYNE
HOME EQUIPMENT

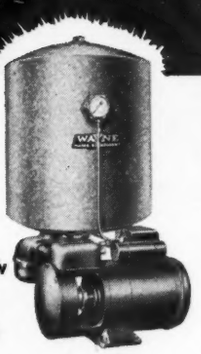
Automatic DEEP WELL JET and SHALLOW WELL TURBINE WATER SYSTEMS



DEEP WELL WATER SYSTEM

. . . plus
A FULL LINE OF AUTOMATIC HEATING SYSTEMS AND HOME WATER EQUIPMENT . . .

With Wayne "installed" home equipment you build a sound business that defies small scale competition. Wayne builds basic home equipment required for modern homes—not luxury items. As long as people live in houses there's demand for "installed" home equipment. Wayne has a complete line for you.



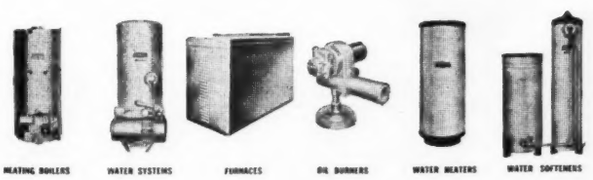
SHALLOW WELL WATER SYSTEM

ADVANTAGES OF FULL LINE RELATED EQUIPMENT OFFER PROFITABLE MERCHANDISING ADVANTAGES . . . . .

With Wayne Home Equipment, related sales follow naturally. Wayne provides national advertising, newspaper service, direct mail, store and window display, and printed sales helps for dealers Selling Wayne Home Equipment means more NET profit to full line Wayne dealers.

WHOLESALER DEALER PARTNERSHIP PLAN
WAYNE HOME EQUIPMENT

Sold Only By Franchised Wholesalers & Dealers
UNDER THE WAYNE PARTNERSHIP PLAN



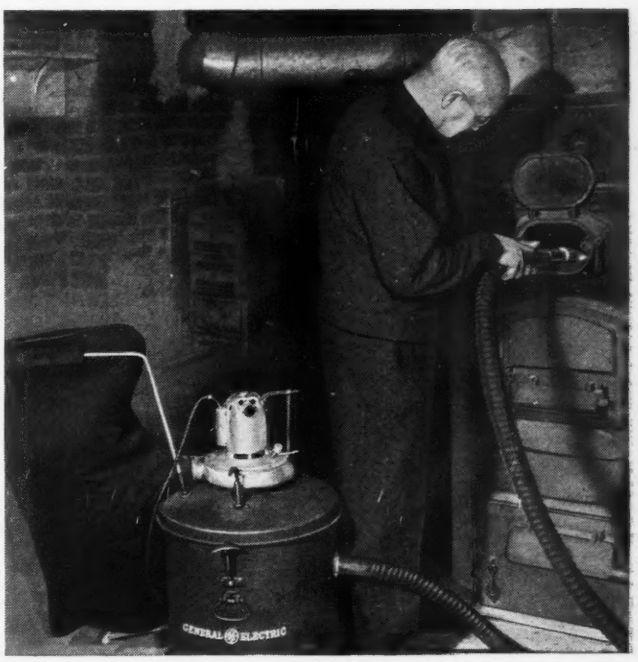
Write for Details of The Partnership Plan

Are You Ready For A Buyers' Market?

THE WAYNE HOME EQUIPMENT CO., INC.
FORT WAYNE, INDIANA

Faster—more efficient furnace cleaning!

Check these advantages of the General Electric Furnace and Boiler Cleaner



Here is a quick, sure way to save time and do a more efficient furnace cleaning job.

This furnace cleaner is built and tested by General Electric, world's largest manufacturer of vacuum cleaners. This machine is equipped with the dependable General Electric motor and backed by the company warranty.

General Electric provides prompt dealer service in repairs and replacement of parts—plus all the specially designed tools which make inaccessible places easy to clean.

For further details, mail coupon below. General Electric Company, Bridgeport 2, Conn.

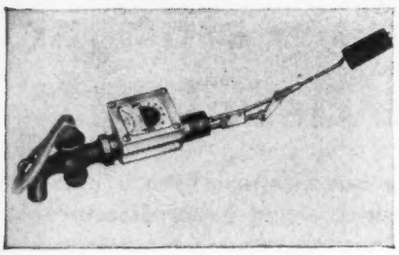
FAST • EFFICIENT • QUIET • ECONOMICAL

The New General Electric

Commercial Vacuum Cleaner

GENERAL ELECTRIC

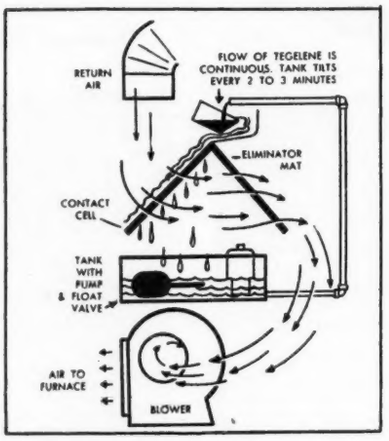
A & M Department, General Electric Company, Bridgeport 2, Conn.
Sirs: 227-141A
Please send me descriptive literature on the General Electric Furnace and Boiler Cleaner. ( )
Please arrange for a free demonstration. ( )
Name of individual.....
Name of firm.....
Address.....**City**.....**State**.....



and faucet, it may be read while oil is being added.

Teg Conditioner Furnishes Clean, Humidified Air

IRON FIREMAN MFG. CO., Cleveland 11, Ohio, have introduced Teg units, which can be added to any warm air furnace to provide filtered, humidified air. In operation, a blower draws air from the rooms of the house through a contact cell in the conditioner. The air is washed every few minutes with a Teglene solution, a water and glycol mixture, and then goes to the furnace for recirculation back to the rooms. Teglene solution is harmless, odorless and non-corrosive, and automatically gives up moisture when air is too dry and absorbs moisture if the air should become too moist. A tank with pump and float valve, located in the bottom of the conditioner, circulates the solution to a V-shaped pan, suspended over the filters. Every two or three minutes the pan tilts


RETURN AIR
FLOW OF TEGELENE IS CONTINUOUS. TANK TILTS EVERY 2 TO 3 MINUTES
ELIMINATOR MAT
CONTACT CELL
TANK WITH PUMP & FLOAT VALVE
AIR TO FURNACE
BLOWER

and the solution is washed over the filters. Fresh water is added automatically to replace evaporation loss.

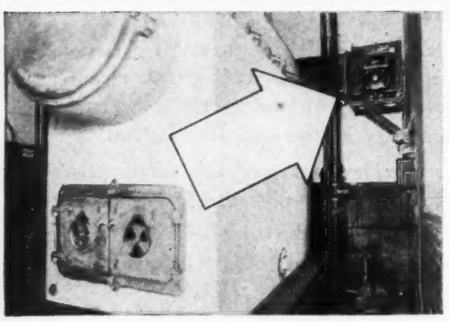
Plugs To Stop Leaks In Range Boilers

MOLLY CORP., New York 17, N. Y., offers a plug to stop leaks in range boilers. The plugs consist of a steel cup, a soft washer and a "spider" with five points of contact. To apply, it is recommended that the leak be enlarge to 3/8" diameter, preferably by drilling. The plug then is placed in the enlarged leak, the steel cup held with pliers and a hex-head screw drawn up tightly enough to compress the rubber washer and collapse the "spider," which covers a 1 1/8" circle. The plugs have been tested to 225 lbs.

Screw anchors, operating on the same principle, also are offered in a variety of sizes for application to any type of wall.

Increase Production Of Quality Water Circulators

QUALITY SPECIALTY CO., Philadelphia 47, Pa., announces increased production of Quality hot water circulators. Introduced some years ago, but slowed in production by the war emergency, the circulator has Oilite bearings, a stainless steel shaft, rust-resisting agitator and special water-lubricated seal. Four sizes are available, from 1" to 2", and smooth, quiet operation is claimed. A seal placed on the unit at the factory prevents tampering.

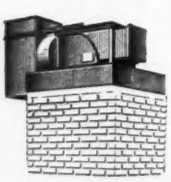


Note how the WING DRAFT INDUCER is installed here without requiring any extra space or bulky fittings. It provides abundance of draft, regardless of chimney limitations or variable weather conditions.

Induced Draft is the Answer

to many automatic burner installation problems

(Below) Typical chimney top installation of WING DRAFT INDUCER



Are you getting complete combustion on every job? If not, it may be shortage of draft, causing high fuel bills and inadequate heat. WING DRAFT INDUCERS are the answer, providing positive draft regardless of wind, weather or size of chimney. Write for a copy of Bulletin I-10, giving full details.

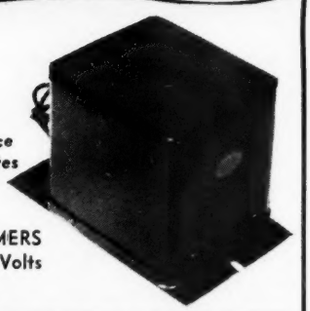
L. J. Wing Mfg. Co. 154 W. 14th St.
Dept. FO New York 11, N. Y.

Wing Draft Inducers

Now Available

IGNITION TRANSFORMERS

Manufactured in strict accordance with UL requirements. Base plates made to your spec.



Also . . . IGNITION TRANSFORMERS available in 50 cy. — 220 Volts without UL

GENERAL PURPOSE THREE PHASE SHELBY MOTORS

60 cy. — 220/440 Volts
Constant Speed-Frame 165
Self Sealed Ball Bearings
Shaft Diameter 3/4 inches.

HP	SPEED	LIST PRICE	HP	SPEED	LIST PRICE
1/2	1140	$47.00	1	1140	$58.00
1/2	1725	36.00	1	1725	48.00
3/4	1140	51.00	1	3450	50.00
3/4	1725	46.00	1 1/2	1725	58.00
3/4	3450	47.50	1 1/2	3450	60.00

Also available in 50 Cycles

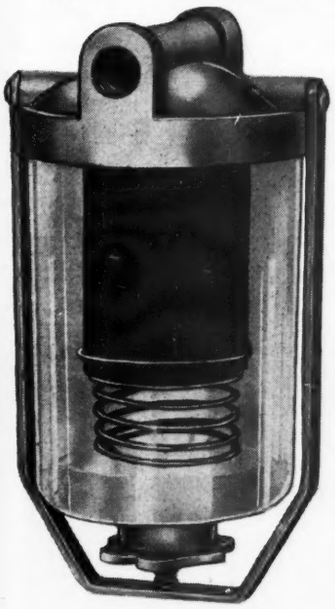
BROWN ELECTRIC COMPANY
FOREST HILLS, N. Y.

IT PAYS

to recommend and install

Klemm
FUEL OIL FILTERS

Equipped with CHEMISTONE
the original Controlled Porosity Element



On every service call, make it a point to suggest a Klemm Fuel Oil Filter as the best way to insure an *uninterrupted* flow of oil to the burners. *It traps dirt, sediment, water and other foreign matter.* All your customers need this protection. Klemm Filters are low-priced, dependable and highly efficient. You profit on each sale *and eliminate the cause of many unnecessary emergency calls.*

There are other filters but none with Chemistone!

HERE'S WHY KLEMM CHEMISTONE FILTERS EXCEL:

1 **Dependable Performance...** Removal of foreign matter assures smooth flow of oil.

2 **Wide Range of Use...** Klemm units operate efficiently with Nos. 1, 2, and 3 grade oil.

3 **Use With Any Burner...** Same CHEMISTONE element functions perfectly with all types of burners.

4 **Flow Capacity...** 50 gallons or more per hour at one-foot gravity feed.

5 **Oil Tight...** Extra wide gaskets make a tight seal for bowl and head casting.

6 **Easy to Install...** Can be readily installed on all standard models of burner or tank.

7 **Simple to Service...** CHEMISTONE Filter element is easily removed for cleaning. Use over and over.

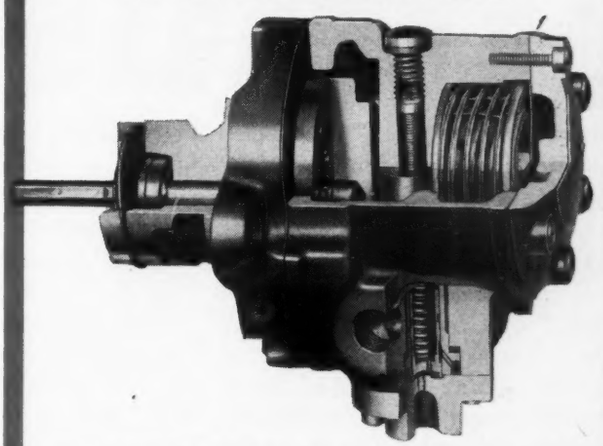
8 **Full Visability...** Inspection requires no removal of parts. Filter element is visible.

LIBERAL DEALER DISCOUNTS—TERRITORIES OPEN
Write today for full information!

Klemm
AUTOMOTIVE PRODUCTS COMPANY

1718 N. Damen Ave. **Chicago 47, Illinois**
Export Division: Guiterman Co., Inc., 35 S. William St., New York 4, N. Y.

POLO "PLUS" PUMPS
FOR OIL BURNERS



THESE NEW PUMPS GIVE YOU ALL THE FUNDAMENTALS

Extra capacity... Quiet operation... Standard mounting holes and adapters... Anti-hum device... Quick, efficient cut-off... Pressure adjustment... Connections for one-pipe or two-pipe systems... Pressures to 125 psi... Suction to 26" of mercury... Right-hand and left-hand rotation models... 100% tested for leakage, flow, pressure, efficiency of cut-off, and power consumption... Leakproof shaft seal.

PLUS

DISTINCTIVE FEATURES *and* VITAL NEW IMPROVEMENTS

Compact design, clean lines, superior-quality castings... Easy valve-piston and sleeve removal and replacement with honed sleeve and superfinished nitralloy piston... Pipe connections grouped, uniform porting for R.H. and L.H. rotation, easy to hook up... New, improved gasket materials... Compact, nested-screen strainer, easy to remove and clean... Long-life hardened or chrome-plated shaft, removable without disassembling body... Optically flat nitralloy seal bearing with bronze seat... Efficient gear pump... New pump housing without dowel pins, accurately replaceable in field repairs... Closer limits, accurate manufacture, complete interchangeability of repair parts... Quality control and life tests... Well-equipped engineering and research department, constantly seeking further improvements... New, efficient manufacturing facilities.

POLO PUMP CO. — ALL YOU NEED "PLUS" MORE YOU WANT — **POLO ILLINOIS**

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Groups' activities to reach the editor by the 20th.

I-B-R Advertising Campaign To Sell Radiator Heat

KEYNOTE OF THE advertising campaign of The Institute of Boiler and Radiator Manufacturers, New York 17, N. Y., is a new consumer booklet, "Enjoy Better Living With Radiant Sunny Warmth." The booklet is featured in advertising being placed by I-B-R in national magazines, such as *Better Homes and Gardens, American Home, House Beautiful, House and Garden, Small Homes Guide.*

The campaign is timed to enable dealers to take advantage of the market set up by the present demand for housing. R. E. Ferry, general manager of I-B-R, explains, "For the first time in the history of the industry, a joint effort is being made by a group of manufacturers on a national scale to influence consumer demand through a strong and vigorous campaign, describing the comfort benefits from radiant heating by means of radiators, baseboards, panels, or convectors."

In addition to the consumer booklet offered in advertising, I-B-R has prepared also a brochure describing the Institute's work and aims, and featuring reproductions of the advertisements scheduled. An order blank permits dealers to order copies of the consumer booklet and window posters in various combinations.

Ordinance Under Fire By Chicago Association

A CITY ORDINANCE in Chicago has been enacted requiring a license by persons keeping or storing fueloil on hand for use in business, which provides for fees ranging from a minimum of $20 to a maximum of $250 annually. F. B. Caldwell, secretary, Burning Oil Distributors Association, points out that if the ordinance is upheld, a two flat housing unit can be construed as a business and subject to licensing, and that if made applicable to all businesses, persons using one, two or three drums for storing oil for heating a place of business would be required to pay.

At present three test cases are being appealed from Municipal Court, Chicago, to Illinois State Supreme Court to test validity of the ordinance. Cases probably will be argued during the October term and an opinion is hoped for before the first of next year.

API Committee Approves Oil Advertising Campaign

PUBLIC RELATIONS COMMITTEE, American Petroleum Institute, New York 19, N. Y., acting at its quarterly meeting April 21, approved a national advertising campaign, under the supervision of API Public Relations Operating Committee, to inform the public of the progressive character of the oil industry. National magazines will be used, commencing in August and continuing until December, and the plan contemplates a tie-in merchandising campaign to encourage oil companies, and local groups to sponsor related advertising.

Franklyn Waltman, chairman PROC,

OIL BURNERS 1 TO 3 G.P.H.

OIL BURNERS 3 to 7 G.P.H.

OIL BURNERS 7 to 15 G.P.H.

#2 & 3 oils

OIL BURNERS

16 to 100 g.p.h. • #5 & 6 Oils

Fully Approved • Quantity Prices
Prompt Deliveries

Virginia 7-2702

ATLANTIC BURNER SUPPLY CO., Inc.

"Everything for the Trade"

100-05 Atlantic Avenue
Richmond Hill 18, N. Y.

SLUDGE PUMPS

Hand Operated $9.75 Self Priming

Brundage
BLOWER UNITS and ASSEMBLIES
Maintain their Pre-war Quality Construction
And that is why you are sure of superior performance, economy of operation, and few, if any, service worries.
THE Brundage COMPANY
BLOWER SPECIALISTS
Since 1919
KALAMAZOO 11, MICHIGAN

The Inside Story

ROTATING AIR, *combined with atomized oil by the* ELECTROL OIL BURNER, *is consumed in an intensely hot ball-shaped flame. Liberal use of Nickel and Nickel Alloys aids burner efficiency, lengthens life.* Photo courtesy of Electrol Burner Manufacturing Company, Rutherford, New Jersey.

Users don't tinker with this oil burner.

They don't have to.

And the inside story of its construction tells why:

Its maker, THE ELECTROL BURNER MANUFACTURING COMPANY, 22 Union Avenue, Rutherford, N. J., knows the value of using Nickel and Nickel Alloy parts.

Such parts are strong. They're tough. They withstand heat, moisture, corrosive fumes and gases.

Consider, for example, the Thermo-Loop which carries and heats air for the master control. That's pure nickel — entirely rustproof and highly resistant to corrosion. And an important feature of Electrol's exclusive *Drip Eliminator* is its long-lasting Monel* needle — for quick cut-off and positive elimination of afterdrip caused by heat from the combustion chamber.

Other Nickel Alloys in the Electrol Oil Burner include: spark electrodes of heat-resistant Nichrome†; a flame director casting of chromium-nickel; an internal-geared pump of nickel cast iron.

In Electrol Oil Burners, as in so many of the quality products you sell, install and service, this generous use of Nickel and Nickel Alloys means long life, improved performance and greater customer satisfaction.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

*Reg. U. S. Pat. Off. International Nickel
†Reg. U. S. Pat. Off. by Driver-Harris Co.

INCO TRADE MARK

Nickel...Your Unseen Friend

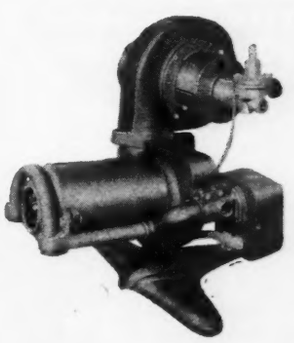
The Outside Story of ELECTROL

A fine ELECTROL burner demands fine installation and service. Consequently, ELECTROL dealers are leaders in their communities. In spite of material and manpower shortages they kept ELECTROLS rolling during the war. ELECTROL dealers are now reaping their reward for their magnificent job. Today ELECTROL burners have greater public acceptance than ever before. ELECTROL dealers have created their own slogan—

"EVERY USER IS OUR SALESMAN"

★ ★ ★ ★ ★

Backing the dealer organization is the ELECTROL factory. For 28 years ELECTROL has been building quality merchandise. The organization is aggressive. It is streamlined to modern demands. An understanding of dealer problems, protected territories, attractive products and prompt service means dollars to the dealer. Write today for details.



ELECTROL BURNER MANUFACTURING CO., INC.
22 UNION AVENUE
RUTHERFORD, NEW JERSEY
Rutherford 2-8300

fueloil & oil heat

reported that of eleven public relations area committees being set up, seven had completed their organization and the other four would be functioning by May 1.

He reported also the printing of a brochure, "Winning More Friends for Your Business," designed to stimulate advertising campaigns by local organizations, outlining a suggested course of action with sample newspaper advertisements and radio commercials, fact sheet and other material. District Committees will distribute the brochures to oil companies.

Warm Air Group Plans to Dedicate Research Residence

THE MID-YEAR CONVENTION of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, will be held June 5 at the Edgewater Beach Hotel, Chicago. Feature of the convention will be the dedication on June 6 of the group's research residence at Champaign, Ill. Members will travel by special train from Chicago to witness the dedication by Frank E. Mehrings, president of the Association, and it is expected that Dr. A. C. Willard, president emeritus, University of Illinois, will accept the new residence on behalf of the University, where it will be a part of the Small Homes Center. There will be an opportunity to inspect the new residence, the University Experimental Engineering Laboratory and the Small Homes Center.

Power Conference Hears About Baseboard Radiation

MIDWEST POWER CONFERENCE on March 31 in Chicago heard a discussion on baseboard radiation by Prof. Warren S. Harris, University of Illinois. Speaking of tests with baseboard radiation in the Institute of Boiler and Radiator Manufacturer's Research Home at the University, he said that this system had provided warmer floors, with less difference between floor and ceiling temperatures, and is convenient, inconspicuous and clean.

Comparing radiant baseboards with conventional small tube radiators, on the basis of tests conducted at the I-B-R research home it was reported that drafts were not experienced with either system, but that radiant baseboards did produce warmer floors and cooler ceilings than did small tube radiators, a characteristic which made the baseboards adaptable to basementless houses. "From the 60" level to the floor," said Professor Harris, "the inside surfaces of the wall along which the radiant baseboard was installed were warmer than the room air at the 30" level of the thermostat, whereas these surfaces were cooler than the room air when the small-tube radiators were used."

Professor Harris pointed out that by concentrating heating effect along the base of the coldest wall, the baseboard produces warm floors, which is most important for basementless homes. The University is conducting further experiments in a basementless house, occupied by a family.

H. P. & A. C. Contractors Plan 58th Annual Convention

TENTATIVE PROGRAM for the 58th Annual Convention, Heating Piping and Air Conditioning Contractors National Association, New York 20, N. Y., reveals that sessions will be held June 11 to 14 at the Netherland Plaza, Cincinnati. Morning

The New Improved
VOLCANO
OIL BURNER
With
"Slamming
Process of Air"
Again
In Full
Production

Volcano
AUTOMATIC
OIL BURNER

Immediate Deliveries!
Franchises Available
Insure a Profitable
Future

VOLCANO BURNER CORP.
3612 E. TREMONT AVE. BRONX 61, NEW YORK

HERE'S A HEATER CLEANING COMBINATION HARD TO BEAT!

CLEAN SWEEP

SOOT REMOVER and SPRAYER

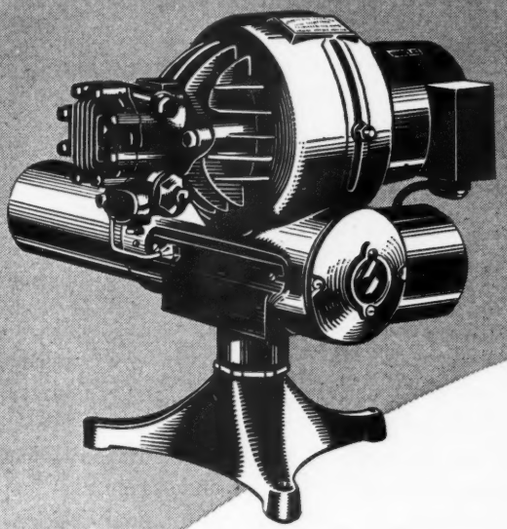
HANDY TO USE
SAFE TO USE
NON-CORROSIVE
NON-EXPLOSIVE
FAST ACTING
ECONOMICAL

This ALL PURPOSE Soot Remover remarkably cleans ALL kinds of jobs, pressure, rotary, vaporizing. A trial will win your confidence. Make it your No. 1 Choice. Do not confuse Clean Sweep with any other name.

SPRAYER—a mans size sprayer made of heavy steel that will not corrode when used exclusively with Clean Sweep. Does not pull back sparks. Truly a great convenience.

SEE YOUR JOBBER OR WRITE US.

CLEAN SWEEP CO. P. O. BOX 156 SO. LANSING 9, MICH.



QUALITY

NU-WAY OIL BURNERS BACKED BY A SOUND DISTRIBUTION PLAN

Quality of Nu-Way Oil Burners has been maintained throughout recent periods of material shortages. Every single burner was shipped as a finished job. Motors and transformers were always standard makes. Controls were complete. Above all, each one was sold at the REGULAR LIST AND DISCOUNT. This policy of maintaining quality is backed by a fair distribution plan. Production is allocated to meet demands of the present list of distributors. As production is increased through plant improvement and greater supplies of raw materials, Nu-Way Burners will be available to new jobbers, distributors and dealers. Be ready when that time comes. Get more details on Nu-Way Oil Burners and the 25 year old organization behind them!

EXCLUSIVE NU-WAY SALES FEATURES

Nozzle shield for trouble free service. A patented Nu-Way feature.

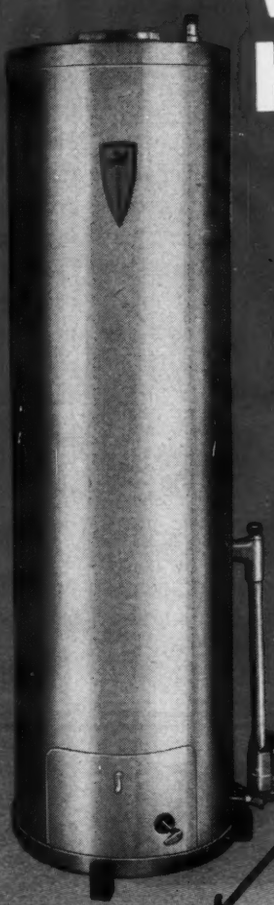
Air adjustment for positive air control. A patented Nu-Way feature.

THE
Nu-Way
CORPORATION
ROCK ISLAND, ILLINOIS

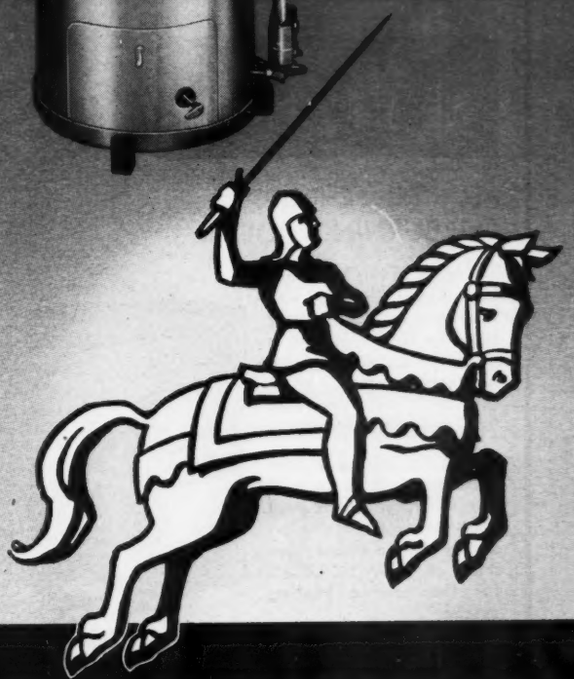
Serving Distributors, Furnace and Boiler Manufacturers
Quality Oil Burners Since 1921

Nu-way
OIL HEATING EQUIPMENT

Lochinvar
Oil-Fired
WATER HEATER



ACCLAIMED *for* LEADERSHIP



LOCHINVAR PRODUCTS

A DIVISION OF
MICHIGAN TANK & FURNACE CORP.
14247 TIREMAN AVE. • DEARBORN, MICH.

and afternoon sessions on the first three days will include reports from association committees, election of officers and directors and a session devoted to home heating and panel heating.

Circular Discusses Moisture Condensation

MOISTURE CONDENSATION in walls and ceilings can be prevented or overcome, says the Small Homes Council, University of Illinois, Urbana, Ill. Paper or sheet vapor barriers in new construction or suitable paint applied into existing houses can do the job, it is pointed out in a new circular No. F6.2, issued by the Council.

The circular combines the efforts of Prof. Frank B. Rowley, director, University of Minnesota Engineering Experiment Station, who supplied the information, and the University of Illinois, who prepared the non-technical circular.

The information contained in the circular explains vapor pressure, the presence of moisture in all air and continues with a discussion of condensation in different types of houses. By diagram and tabulated data, the where, why and what to do about condensation in the home is discussed. Detailed explanations on cures for condensation troubles conclude the circular, obtainable upon request from the Small Homes Council.

Warm Air Group Sponsoring Indoor Comfort Conferences

WARM AIR HEATING Indoor Comfort Engineering Conferences currently are being sponsored by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. The conferences are planned as two day meetings of heating contractors, salesmen, mechanics, estimators and all interested in warm air heating installations and include instructions on basic principles of heating and practical rules for designing, installing and servicing warm air heating systems.

Conducted by G. A. Voorhees, those who attend receive all six sections of the Association text book, "Practical Warm Air Heating," are furnished all supplies needed to work out practical problems prepared for the class sessions and take home information and sketch blanks to enable them to apply the methods they learn at the conferences.

A revised schedule released by the Association lists classes to be held May 5 and 6, St. Louis; May 8 and 9, Kansas City; May 12 and 13, Omaha; May 19 and 20, Minneapolis; May 22 and 23, Des Moines; May 26 and 27, Milwaukee; June 9 and 10, 12 and 13, 16 and 17, 19 and 20, Chicago.

Committee Recommends Oil Industry Advertising Program

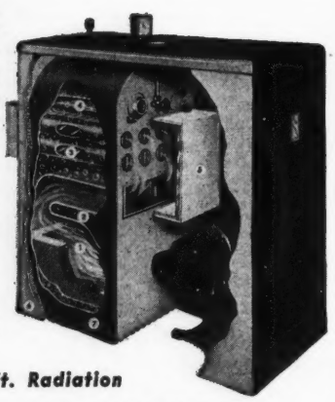
THE OIL INDUSTRY's Public Relations Operating Committee recommended to the Public Relations Committee, American Petroleum Institute, in Washington on April 21 that an industry advertising program be undertaken this summer. The Committee's original decision was made during its meeting in San Francisco, April 1. At this meeting progress was reported in the establishment of District Committees, thirteen of which are planned and eight of which will be operating by May. The District Committees will concentrate on projects designed to obtain wide use of industry facilities to increase public

THE NEW YORKER

HERE'S the STEEL BOILER for LONG LIFE AND QUIET OPERATION

ALL STEEL, RESIDENCE
OIL BURNING BOILER

The tubes of this boiler are extra heavy. The tube wall thickness is one quarter inch, the same thickness as the boiler plate. This makes tube replacement unnecessary and gives whole boiler exceeding long life.



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Sleeve end of coupling is close sliding fit on blower wheel hub. Power is transmitted through four spline ribs of coupling fitting four spline grooves in blower wheel hub.

FOR OIL BURNERS

These exclusive direct drive couplings with rubberized cushion gripped permanently, have no parts to lubricate or get out of order. Guardian Flexible Couplings minimize misalignment, free-end float, and backlash. Custom-made for specific jobs. Over a million tested and proved in oil burners in last ten years.

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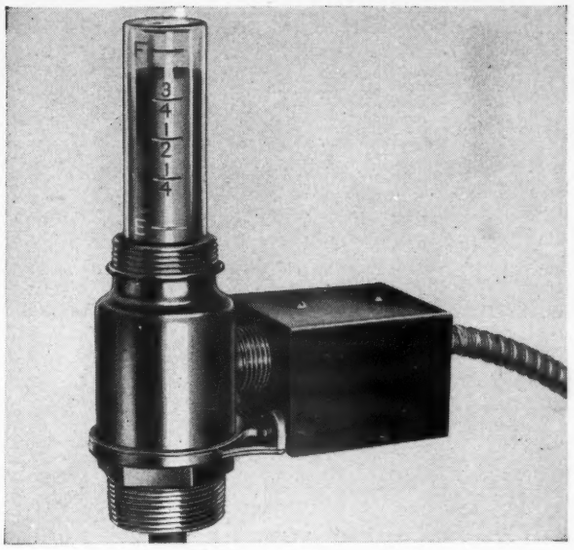

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For use on 275 gallon tanks, automatically cuts off oil burner when supply gets low. With the Dixon Oil Gauge loss of prime, clogged filters, clogged nozzles, and other service problems are reduced to a minimum.

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NONE BETTER

OIL BURNER

fits right into your

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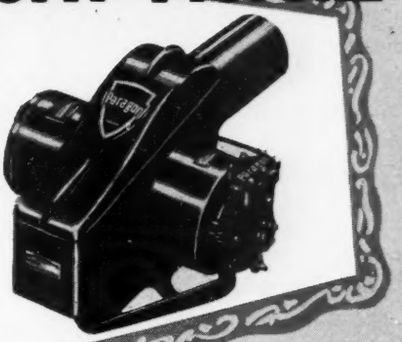

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U.L. approved gun type oil burners complete with controls

FORCED AIR OIL FURNACES

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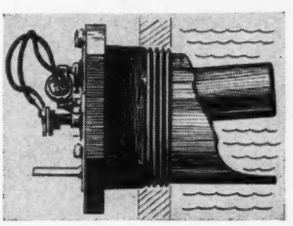

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This pocket-size book shows the required radiation for all rooms of ordinary size with from one to three windows, one to three exposures, and every combination of walls exposed. Figures are based on calculations of the space by the Btu method on a 0° to 70° design temperature. A table shows corrections for other design temperatures.

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IT CUTS
AND STRIPS
AND ALSO CRIMPS
Rajah Terminals to ignition cable without the use of solder or any other tools

The RAJAH COMPANY,
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knowledge and understanding of the oil business.

NPA Meets at Cleveland

THE FORTY-FOURTH semi-annual meeting of the National Petroleum Association was held in Cleveland, April 17 and 18. Sessions at the two day gathering included forums and addresses on manufacturing problems, industrial and labor relations. A report on the "Activities of the Oil and Gas Division," by Max W. Ball, director, Oil and Gas Div., Department of the Interior, featured the April 18 Breakfast session.

OHOT of N. Y. Holds First Annual Meeting

OIL HEAT OLD TIMERS of New York held its first annual meeting on April 17, at the Hotel Sheraton, New York, which featured initiation of thirteen new members and election of officers.

Bill Brown is the new president of the club, with Tony Sbare, vice president; John Morro, treasurer; Al Zeamans, secretary; and Russ Dempsey, sergeant-at-arms. New directors elected are Meredith King, Reuben Lisson, Boyd Lipsett, John Morro and Russ Dempsey. Joe Reiss and Armand Sbare were named directors to fill unexpired terms.

Old Timers meet in New York

Almost 100 Old Timers attended the dinner meeting and entertainment that followed the business session.

Westchester Group Resumes "Cruise"

AFTER A LAPSE OF FIVE YEARS, Westchester Oil Trade Association resumed a 14-year old tradition when it recently held an annual "Cruise" at the Hotel Astor, New York, attended by 225 members and friends.

When the Association first organized, a cruise was held to mark its first anniversary, and since then all annual affairs have taken the name of "Cruise" in honor of group's first affair. During the war years, the "Cruise" tradition was suspended.

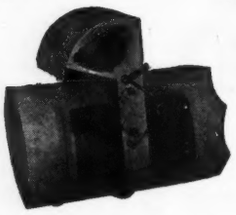
The Association is continuing its program promoting oil heat by advertising campaigns, featuring the slogan "Oil Heat is the Best Heat," and sponsors a weekly radio program, "Westchester Youth Speaks," on which high school students currently present dramatic presentations in competition for a trophy the Association will award in June.

CSE BAROMETRIC DRAFT CONTROLS

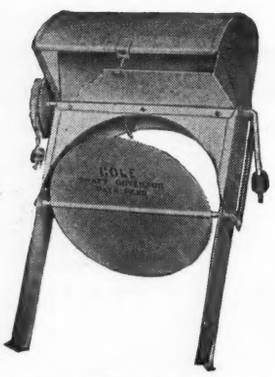
For every type and size of installation

Fuel Saving Starts With CONTROL

The Cole Draft Governor is especially designed for oil, coal, and gas fired heating and power plants, any size. . . . Fully automatic, instant opening at the start of automatic firing devices, simple, trouble-free, efficient, easily installed. . . . Fuel saving up to 35%.



Standard domestic round Cole Draft Governor (cut out to show working parts).



Standard domestic round Cole Draft Governor, Type A, as shipped.

Write or wire today for complete information.

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Velocitrol DOES IT — Saves 10 to 15% in Fuel

The NEW PowRMATIC BURNER WITH VELOCITROL MICRO-FLAME ADJUSTMENT

Simply remove the cap and move the "Velocitrol" knob up or down the calibrated scale to regulate air flow to fire tube. Tighten knob, replace cover.

Prompt Delivery. Write.

IS THE REAL HIGH ECONOMY OIL BURNER because

1—The Velocitrol feature—exclusive with the PowRmatic—is an air meter that regulates just the right air volume and pressure to the oil nozzle for correct flame size and shape.

2—Velocitrol easily adjustable micro-control means better flame adjustment for top combustion efficiency.

3—Velocitrol gives CO_2 readings of 12.5%—and that's real burner efficiency.

4—The PowRmatic Burner with Velocitrol is a medium priced, better designed, precision built quality burner that sells on fuel cost-cutting performance.

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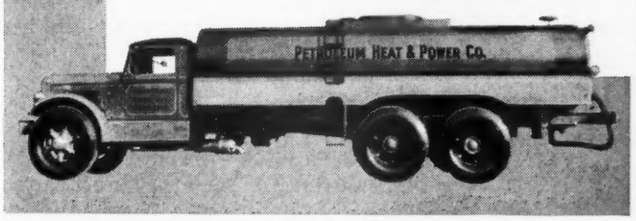

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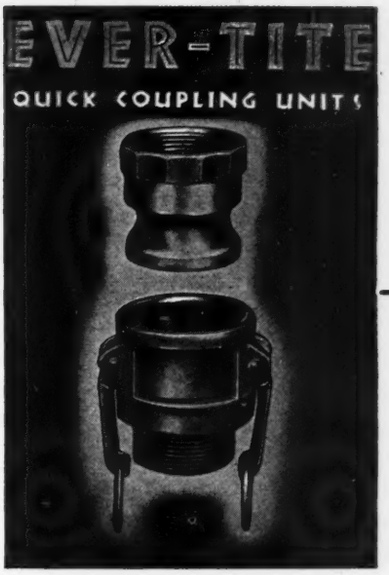

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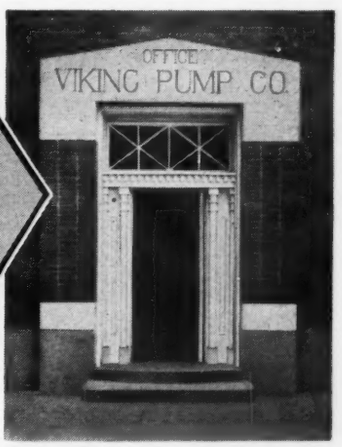

It's a good idea to take your rotary pumping problems to the leader in the field . . . Viking Pump Company.
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Weigh the facts before making your decision. Write today for folder 1500EE and ask for complete recommendations on your pumping problem.

See Our Catalog In SWEETS

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

Controls for Unit Heaters

(*Continued from page 69*)

the different thermostats all set for exactly the same temperature, a certain unit heater or two always tended to operate more than the others, while one or two other heaters hardly operated. His studies of the thermostats, made on Sundays when no employees were in the plant changing the thermostat settings, proved that nine room thermostats do not click "on" at the same time when a room chills, and that the clicking "on" of one or two tends to stop the chilling of the entire room. He then understood better the complaints of certain employees who declared that even with the thermostats adjusted exactly the same, certain unit heaters operated most of the time but others (near the complaining employees, of course) operated very little or stayed idle.

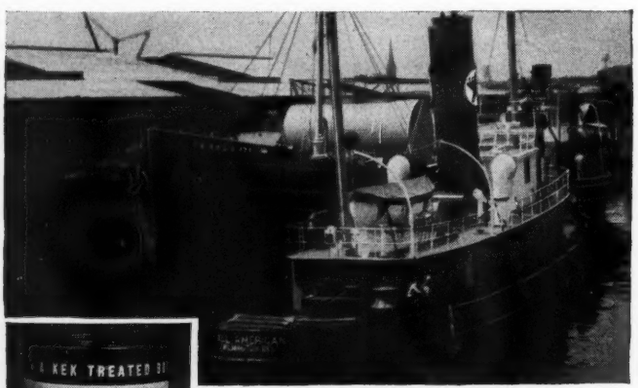
The second big item on the owner's mind about the controls in Diag. 1 was that the oil bill was oversize. Probably this was related to: (a) keeping five pounds steam pressure on the system 24-hours a day; (b) the fact that with the blower motor idle a unit heater may condense 5% to 10% as much steam per hour as with the motor running, and that the heat given off by an idle unit heater is relatively ineffective as far as raising temperatures at the breathing level is concerned; and (c) the lack of automatic temperature control for the rooms heated by the cast-iron radiation; with five pounds steam pressure maintained constantly in winter. Shutting off the radiator valves was the only way to control the heat in these rooms, and much of the time the rooms were overheated and the windows were open.

Orifice Discs Added

The shift to the controls shown in Diag. 2, provided so much improvement that the owner thought he had advanced to the ultimate in heat controls for his building. One major improvement not shown in the diagram also was provided. That is, an orifice disc was provided for each unit heater and each cast-iron radiator. Of the proper sizes to supply each unit heater and radiator with the proper amount of steam during short "on" periods of the burner, and to make certain the distant heaters would obtain as much heat as those close to the boiler, these orifice discs were easily installed in pipe unions of the unit heater feed lines, and in the radiator feed valve unions. A feature highly satisfactory to the owner lay in the system's being tamper-proof once properly balanced, although in a few minutes a different orifice disc could be installed by a serviceman to give more or less heat to any unit heater or radiator.

With the controls shown in Diag. 2, one room thermostat is located in the center of the factory work-space. With the thermostat "off," the burner stays idle and the boiler becomes cold. When heat is needed, first the room thermostat starts the oilburner, then the unit heater motors are turned on by the reverse-acting temperature controls shown in Diag. 2. Thanks to the use of the orifice discs in the feed lines to the unit heaters, and to proper settings of these temperature controls, practically equal amounts of heat are given the work-space by each of the unit heaters.

To settle the problem of employees



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High or low pressure home and industrial steam generators too, can be kept at their peak with Kek. Get the facts—Write. Immediate Deliveries.

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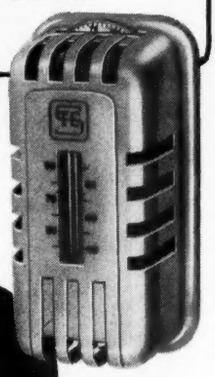

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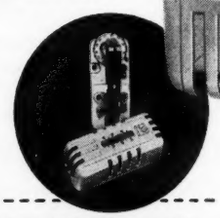
Operates on 115 volts AC, 60 cycle single phase non-inductive load, or 7.4 Amps. at full load and 44.4 Amps. at locked rotor motor load. Write for complete catalog.



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This is just one of twenty-five famous S. O. S. Products of a complete chemical and refractory line, that have made work easy for the plumbing, heating, and oil burner industry.
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NOW-Greatly Reduced in Price!
FULL
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Make up any length gauge—the floats can be increased or decreased and adapted for any size tank. Springs can be furnished to make changes from a 22" length to 60" length.
Manufactured by THE MEL PRODUCTS COMPANY, this Model "S" Sausage Type Tank Gauge is—
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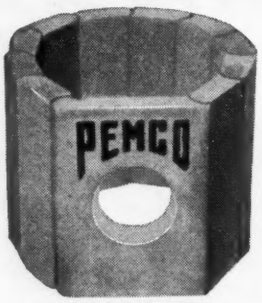

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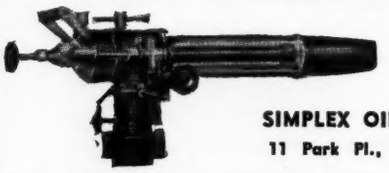

RESULTS COUNT!

SIMPLEX OIL HEATING CORP.
11 Park Pl., New York 7, N. Y.

"monkeying" with the thermostat, the oilheating dealer suggested that the owner ask the workers formally if they considered 70° a high enough maximum temperature for the factory. They did. Working neatly and from the inside of the thermostat cover, the heating man then soldered a permanent stop device to the thermostat, inconspicuous, but rendering it impossible to raise the setting of the thermostat above 70°. Next he did some drilling and tapping and fastened the cover of the thermostat with screws. He soldered over these neatly, then had the thermostat re-finished in an automobile painting shop. Finally, on the heating man's suggestion, the owner had the employees elect their own "heating engineer," and he alone was given authority to adjust the thermostat daytimes. He could use any setting he believed would please the workers he represented, but of course he could not adjust for higher than 70°, which in the first place the workers had declared certainly was as warm as they might want it at any time. Incidentally, the thermostat was always set at 70° daytimes. With the new control arrangement, for nights and weekends the room thermostat simply is set down. Nine thermostats do not have to be re-adjusted every morning and every night. Moreover, setting down the one thermostat stops the burner until the building chills; five pounds steam pressure is not maintained when the outside temperature is below 60° and whether heat is needed in the building or not.

The switch from the controls shown in Diag. 1 to those of Diag. 2 produced a gallonage savings of 35% to 40% according to the owner. Also, and related to the savings, it ended the problem of the overheating of the rooms heated by cast-iron radiators.

When the oilheating expert approached the owner with a new idea, installing a modern large-building heat control system governed entirely by the outside weather, the owner did not hold back the order.

The control equipment shown in Diag. 3 was installed, but the arrival of warm weather prevented making the final adjustments. The dealer is confident, however, that the many advanced features of the new system will prove exactly to the owner's liking, and that the oilburner cycling and the heating of the offices will be far better than it was with one room thermostat, located in the main part of the factory, controlling the entire heat of the building. He knows, he declares, that he can fulfill the boss's order of "Maintain 70° in that factory," and give even more satisfactory operation of the unit heaters than was obtained even with the controls he had installed earlier to improve the installation.

As it does in this case, in any building heated by unit heaters the success of oilheating depends largely on providing proper control of the heater motors. Solve the problem of controlling the unit heaters where you find them in a building, and usually you solve the entire heat-control problem.

◈

T. L. Seaman, president Catskill Metal Works, Inc., Catskill, N. Y., is assuming personal direction of sales, replacing M. A. Young, former sales manager who resigned May 1.

OIL SOOT E-Z DESTROYER

CUT OIL HEATING COSTS

Simply spray E-Z and soot vanishes instantly. Customers always satisfied. One trial will convince you.

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ECONOMICAL TOO"

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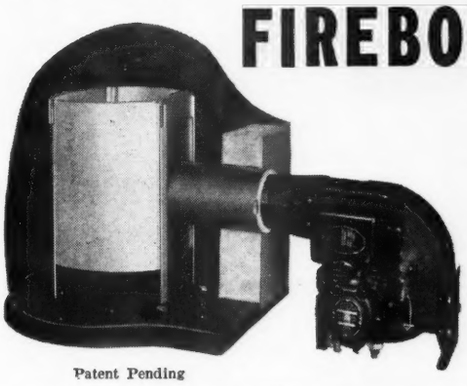

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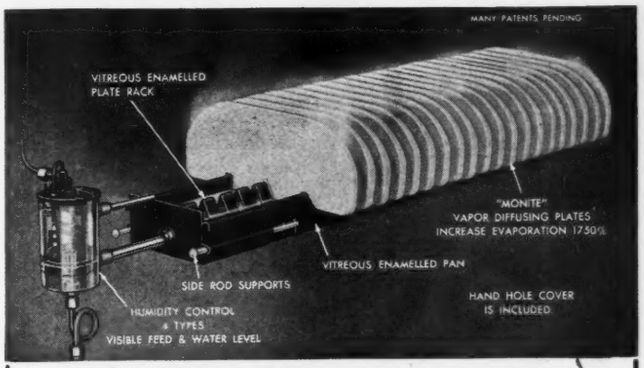
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Full details and prices sent on request.

THE CLEVELAND HUMIDIFIER CO.

7808 Wade Park Ave. **Cleveland 3, Ohio**

Parakem SLUDGE REMOVER

FOR GREATER PROFITS!

The Fuel Oil Conditioner Backed By More Than 100,000,000 Gallons of Fuel Oil Experience

Gives you repeat business—your customers need Parakem to prevent sludge deposits in the storage tank, lines and oil burner. Parakem improves atomization, allows quicker starting — results in a brighter, cleaner flame.

Parakem is specially priced for resale by dealers at good mark-up.

Sold in one and 5 Gallon Cans —15, 30 and 53 Gallon Drums

Write for complete details and prices **TODAY!**

Paragon Oil Company

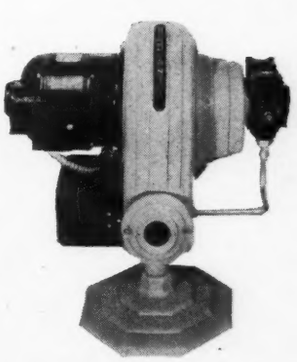
75 Bridgewater Street **Brooklyn 22, N. Y.**

BURN CATALYTIC OILS EASILY with NO SOOT and NO TROUBLE!

Sell and install the New, Improved

RADIANT

• OIL BURNER •



4 sizes . . . 1 to 20 gph

Low in Cost . . . Dependable . . . A profit-maker for dealers . . . easy to service because it was designed to reduce service costs and increase efficiencies.

"YOUR FUTURE IS BRIGHT WITH RADIANT!"

Literature on Request.

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1859 Cropsey Ave. **Brooklyn 14, N. Y.**

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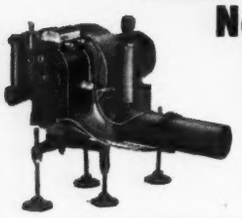

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REDUCE HEATING COSTS...
INCREASE YOUR PROFITS

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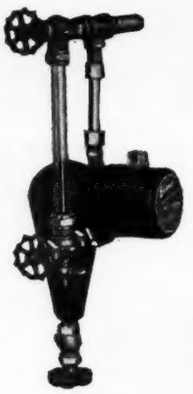


ECONO

Low Water Cut-Offs are a better cut-off for less money. Write for prices and catalog.

THE ECONO PRODUCTS CO.
250 Stuart St., Boston 16, Mass.

Oil for American Homes

(*Continued from page 61*)

percentages of crude run to home heating oils and diesel fuels. These factors will require that larger amounts of cracked oils be included in home heating oils. This is the only way in which motor fuel and heating oil volume demands can be met. As a result of this combination of circumstances, home heating oils of the future will have a higher content of catalytically cracked distillate and will have a lower Burning Index than those now being marketed.

There is another factor which can readily accelerate the trend in heating oil quality toward lower burning indices. This is the possible necessity of producing the predicted 1950 and 1955 requirements of heating oils and motor fuel from less crude than is estimated will be run to the stills. This could materialize because increased runnings are dependent on the installation of greatly increased refining capacity.

In view of these facts, the burner manufacturers should solve the problem of oil quality by designing burners to operate more effectively with oils of lower Burning Index. They should prepare for this now. The efficacy of their efforts can be realized when you consider that approximately 60% of all oil burners expected to be in operation in 1955 will have been built after 1946.

Sludge and Corrosion

In addition to satisfactory combustion in existing burners and in those to be installed in the future, burning oils must give satisfactory performance from the point of view of sludge formation and corrosion of equipment. The minimizing of these latter effects is part of the key to uninterrupted service in oil heating. Although A.S.T.M. specifications and Commercial Standards in the past contained no specifications or recommended no tests to assure freedom from these difficulties, the nature of the problem was recognized by many refiners and, for some time, burner fuels have been refined to limit sludge formation and corrosion of burner parts.

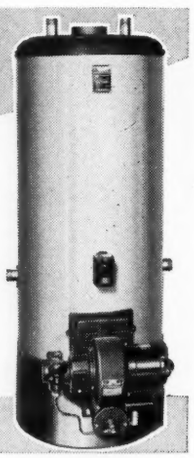
As the percentage of cracked components of distillate fuel oils increases, the possibility of stability and sedimentation difficulties may also increase. This problem is being actively studied by the Stability, Sedimentation and Corrosion Section of the American Society for Testing Materials Technical Committee E on Burner Fuel Oils. When this group completes its program, it is probable that new specifications for burner fuels will include requirements to insure satisfactory oil stability. Most major oil companies have given considerable attention to these problems and have solved them to their own satisfaction.

◈

George T. Welch, 63, sales manager for Langie Fuel Service, Inc., Rochester, N. Y., fueloil dealers, died March 31 in a Rochester hospital after three days' illness. He joined the staff of the fuel company 16 years ago, was a former president of the Rochester Real Estate Board. Surviving are his wife, four sons, two daughters.

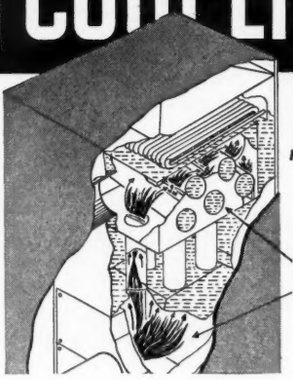
Bock OIL BURNING WATER HEATERS

TWO BURNER TYPES — VAPORIZING WITH ELECTRIC IGNITION FOR THE SMALL JOB—PRESSURE ATOMIZING FOR THE LARGER. THE BEST IN OIL WATER HEATERS.



Bock CORPORATION
MADISON, WISCONSIN

COOPERHEAT



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LOW IN COST

Large Seamless Vertical Fire Tubes and Water Tubes, Embodying a New Scientific Development, Facilitate Swift and Economical Heating.

American Oil Burner Corporation
Manufacturers of Oil Burners and Steel Boilers
COOPERSBURG, PA.

EASY TO READ FROM ANY DIRECTION

AT-A-GLANCE OIL GAUGE

PERFECT VISIBILITY! An exclusive patented feature is the double enclosure of plastic. Another exclusive patented feature is the calibration assembly that prevents oil from seeping into the calibration dome.

EASY TO INSTALL! Easy to install in all basement tanks, even when partially full.

NO ADJUST--MENTS Made at the factory to fit all tank sizes, and according to individual specifications.

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Write for complete details

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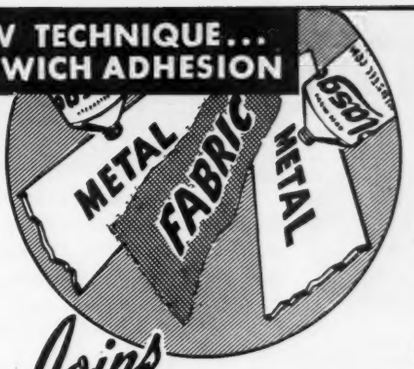

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SOLVES YOUR ADHESIVE PROBLEMS!

Materials joined with Plasgon "Sandwich Adhesion" withstand a shearing stress of over 200 pounds per square inch!

Send for your free sample and try this yourself...

Spread Plasgon, the plastic adhesive, over each surface. No heating or preparation necessary. "Sandwich" a piece of kraft paper or fabric between surfaces and press firmly together. In 48 hours you'll have a tough permanent joint... proof against heat, oil, gas, water... flexible so that shock or jarring can not weaken it.

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Automatic Oil-Burning

Furnaces—Water Heaters

J. L. GILLEN CO.

DOWAGIAC, MICHIGAN

OUR 75TH YEAR

Since Ray developed the horizontal rotary principle of atomization in 1914, this Company has pioneered every major improvement in the heavy fuel oil burner field: FIRST with the Dual Pump and Reservoir, the Angular Vane Nozzle, the Hollow Shaft, Compound Firing; and FIRST with a Combination Gas-Oil Burner. It's a fact: Ray has been first from the very first!

RAY OIL BURNER CO.

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STANDARD WATER TUBE BOILERS

A MODERN HEATING PLANT FOR BETTER HOMES!

designed for ECONOMY of OPERATION DEPENDABILITY and EFFICIENCY

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The Original. Still the Best. Hundreds of Thousands in Use. • Holds the draft constant in the fire box. • Scientific draft control for the smallest to the largest jobs. • Stove, domestic, and commercial sizes from 4" to 24" in diameter. • Industrial sizes from 24" x 24" to 5' x 12'.

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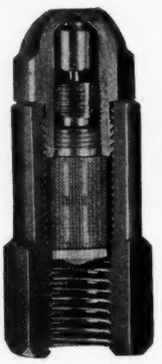

Patent Pending

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TOPS THEM ALL

Tip and flexible disc are made of stainless steel of the highest quality accurately machined with precision and care. Each nozzle is individually tested.

PROMPT DELIVERIES

Kopp Nozzle Products
36 Newark Way Maplewood, N. J.

Liquid Gas and Coal

(*Continued from page 58*)

Though there is a mountain of work yet to be done in the field of synthesizing oil, the start is not being delayed. Oil from natural gas will be a reality on a commercial scale before the end of 1948, according to Robert Wilson of Standard Oil (Ind.), and the hydrogenation of heavy oil residues to make lighter oils will be in operation by 1965. Dr. Wilson sets the date for commercial production of oil from coal at 1970.

There are other sources of millions of barrels of oil that now seem to have been outranked economically by these technical developments. There still is as much oil locked in shale as ever, but the cost of handling shale to extract oil by presently known methods is believed to have killed this source of liquid fuel for the foreseeable future. More billions of barrels of potential oil lies in Canadian tar sands with little chance that it will be commercially available. Future developments may make possible the treatment of these deposits in an economical way, but for the present the manufacture of oil from gas and coal holds greater promise than the recovery of widely dispersed natural petroleum, and the supplies are ample for a thousand years.

Thinking of the scientists on the utilization of these synthetic processes is no more unified than the thinking on the best and most desirable process. There still is a school of thought that favors hydrogenation of coal by a modified Bergius process to make crude that then could be refined in existing refineries. Against this is the segment that favors the gasification of coal and conversion of gas to finished products.

Gasification of Coal

Development of coal gasification in the near future will not be an unmixed blessing to the oilheating industry. Most present thinking favors use of the gasified coal as fuel, rather than as raw material for the manufacture of oil. It is believed that gas can be made in quantity in the coal fields and piped to major markets for somewhat less than the coal can be hauled to gas plants nearer to the markets. By use of a combination of the Lurgi process and Fischer-Tropsch it is possible to make a 1,000 Btu gas that could be piped from any coal field to nearby markets for a fraction of the cost of transporting the same amount of heat in the form of lump coal.

E. V. Murphree, vice-president of Standard Oil Development Company, points out that a synthetic plant can make gasoline and 1,000 Btu gas at the same time, and he favors selling the gas for fuel, rather than recycling it into more gasoline. A plant making 10,000 barrels a day of gasoline from coal, he says, would produce about 40 million cubic feet of 1,000 Btu gas. It would be cheaper to sell this gas as fuel for whatever the market will bring than to process it. This would make available a rich gas at reasonably low price which could be pumped into city mains.

Details of future utilization of these processes will evolve with time, but for the present it is important to know that synthetic oil from natural gas already is feasible, and will be on the market before

GORTON SYSTEM
of
Equalizing and Vaporizing
Existing Steam Heating Systems
for
Automatic Heating

Guaranteed to heat all radiators evenly and quickly on 4 to 8 ounces vapor pressure—no piping changes required.

Prompt Shipments • *Write for Bulletin No. 114*

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Since 1887—Mfrs. Heating Equipment
CRANFORD NEW JERSEY

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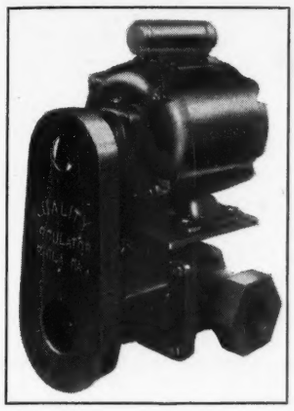
All Electric
OIL BURNER

Tested and Proven By Time and Performance

For Dealers Who Want Completely Satisfactory Service

SUNDSTRAND ENGINEERING CO.
ROCKFORD, ILL.

"QUALITY BURNERS FOR 26 YEARS"



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PRECISION BUILT

Four sizes: 1" to 2". Fully Guaranteed—Carbon Water-Lubricated Seal—Smooth, Quiet Operation

Thousands of Satisfied Users

DEALERS AND DISTRIBUTORS WANTED.

QUALITY SPECIALTY COMPANY

528 So. 4th St. (MArket 7-5210) Philadelphia 47, Pa.

the end of next year. Synthetic oil from coal is possible at slightly higher cost.

Methods Improved

Development of methods and processes continues. Since Dr. Bergius first forced the union of hydrogen with coal's carbon in 1910 to make a liquid hydrocarbon, improvement has been constant. The formula $C + H_2 \rightarrow CH_2$ oversimplifies the process, since it does not show the tremendous pressures and temperatures that were necessary for Bergius to accomplish the change. Similarly, formulae for the more modern processes paint a poor picture of the retorts, towers, piping and equipment that make up the physical equipment of a modern plant.

Starting with partially burned coal there is the carbon monoxide of producer gas:

$$C + O \rightarrow CO$$

Then by blowing steam into the hot coal (2,000°), the water was broken down and hydrogen released to make water gas of a higher heat content:

$$C + H_2O \rightarrow CO + H_2$$

This was the best gas that could be made from coal until eleven years ago when it was found that some pressure on the retort (300 psi) would make the carbon dioxide and hydrogen unite to form methane:

$$CO + 3H_2 \rightarrow CH_4 + H_2O \text{ or}$$
$$C + 2H_2 \rightarrow CH_4$$

This is a gas that will run between 500 and 600 Btu per cubic foot, compared with 300 Btu per cubic foot for straight

For More Profitable Jobs

NU-TROJAN Combustion Chambers

A Product of McLeod & Henry Co., Inc.

A. R. WEBBER CO., INC.

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NEW HAVEN 11, CONN.

Nu-Trojan Chambers have the features that lower installation costs and reduce servicing costs to help you secure profitable jobs. Has few parts, does not need steel bands to hold them in place. First quality "Steel Mixture" Pennsylvania fire clay. Fusing point 3180° F. Write Dept. 61 for details.

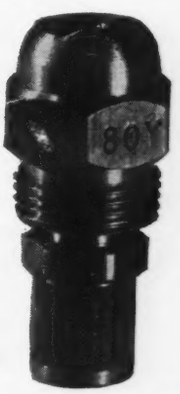
EVERYTHING FOR THE OIL BURNER TRADE

Ace Nozzles

Products of 26 years' experience in the design and production of oil-burners. Extreme Precision—Guaranteed Accuracy.

All Capacities and Angles

"For those who want the best"



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OSCAR C. SCHROEDER, Owner

FUEL OIL PREHEATERS

SUCTION BELLS

TANKLESS WATER HEATERS

NOW SHIPPED FROM STOCK

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ROTARY and PRESSURE ATOMIZING TYPES

Dealer and Distributor Inquiries Invited.

HAYWARD MFG. CO., INC.

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— are self-adjusting for wear —

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Pressures to 300 psi.

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SERVING THE PETROLEUM INDUSTRY FOR OVER 40 YEARS

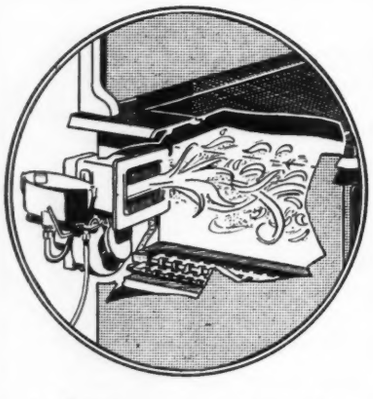
Profits!

Through the

SUPER-THERM

Combination

OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

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Pioneers of the Oil Burning Industry

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water gas. Thus, it became possible to make manufactured gas commercially without enriching with oil gas.

Fischer-Tropsch process takes water gas at about 650°, and applies 250 psi in the presence of a catalyst to make liquid hydrocarbons:

$$CO + 2H_2 \rightarrow CH_2 + H_2O$$

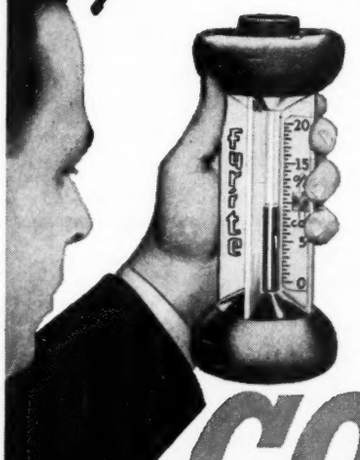
Like Einstein's formula, $E = mc^2$, which pointed the way to the atomic bomb, there is no way to predict the development and increases in process efficiency that lie ahead for these carbon-hydrogen formulae. Chemical progress already has made the gas and coal reserves available to the oil-consuming public, and further research undoubtedly will improve the processes and reduce the costs. In the meantime, well oil is abundant for all needs of the immediate future.

◈

Elmer Schneider has been elected to the newly created position of vice president and director of engineering, Wheelco Instruments Co., Chicago, Ill., and will be in charge of all engineering activities, including inspection and approval of quality standards. *Joseph A. Reinhardt* becomes plant manager, responsible for all manufacturing operations.

Oliver H. Payne was named chairman of the board, Davisbilt Products Co., Cincinnati, Ohio, at the company's annual meeting. Other officers named were: *John F. Winchester,* president; *E. H. Malden,* executive vice president; *William T. Snyder,* secretary; *Lydia S. Walsh,* assistant secretary; *Leonard H. Duerr,* vice president in charge of engineering; *J. S. Keller,* vice president in charge of purchasing; *Ervin Schwartz,* vice president in charge of production.

Right before your eyes!



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Combustion Check-up

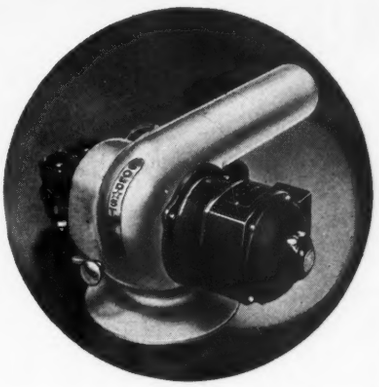
The FYRITE CO_2 Indicator above, with the DRAFT-RITE Draft Gauge below and our 100° to 950° F. Thermometer, make a handy, economical combustion testing set that has everything you need for oil burner service and installation tests.

Such tests are not only powerful selling aids for the alert heating man—they are now required by nationally-accepted codes such as FHA Minimum Construction Requirements, O. H. I. Installation Standards, and Massachusetts Oil Burner Ordinance.

Your jobber can probably show you these instruments. If he cannot, send us his name and ask for Leaflet 707 which gives complete particulars.

BACHARACH INDUSTRIAL INSTRUMENT CO.

7000 BENNETT STREET • PITTSBURGH 8, PA.



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Specify GOLD STAR

MODEL J

Capacity - 1 to 5 gals.

***Finest* AT A PRICE!**

— Write Today —

Gold Star Oil Burner Mfg. Co., Inc.

146-150 Warburton Ave. Yonkers, N. Y.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE (Sept. 1 to March 31)			
	March		Percent					Percent
Normal	1946	1947	Change*		Normal	1946	1947	Change*
955	661	923	— 3.4	Albany	5817	5858	5600	— 3.8
389	197	599	+54.0	Atlanta	2794	2632	2803	+ 0.3
650	377	764	+17.5	Baltimore	4063	3653	3719	— 8.5
852	561	847	— 0.6	Boston	5067	4908	4592	— 9.4
1010	633	1089	+ 7.8	Buffalo	5782	5528	5424	— 6.2
871	551	981	+12.6	Chicago	5410	5401	5364	— 0.9
681	299	839	+23.2	Cincinnati	4487	4036	4474	— 0.3
892	478	1025	+11.4	Cleveland	5281	4920	5022	— 5.0
284	146	464	+63.3	Dallas	2269	2063	2369	+ 4.4
792	633	853	+ 7.7	Denver	4990	4798	5050	+ 1.2
849	533	998	+17.5	Des Moines	5742	5563	5689	— 1.0
943	589	1058	+11.2	Detroit	5681	5298	5319	— 6.4
962	587	1052	+ 9.3	Grand Rapids	5817	5176	5402	— 7.2
871	599	909	+ 4.3	Hartford	5296	5357	4979	— 6.0
982	776	1009	+ 2.7	Helena	6548	6094	6923	+ 5.7
154	64	267	+73.3	Houston	1283	1185	1456	+13.4
751	409	944	+25.6	Indianapolis	4890	4777	4819	— 1.5
657	300	848	+29.0	Kansas City	4538	4043	4400	— 3.1
209	248	169	—19.2	Los Angeles	1100	1173	1140	+ 3.6
595	252	817	+37.3	Louisville	4027	3615	3898	— 3.3
969	727	1085	+11.9	Milwaukee	5994	6066	6031	+ 0.6
1082	696	1122	+ 3.6	Minneapolis	7063	6924	6844	— 3.2
130	63	249	+91.5	New Orleans	1175	1163	1350	+14.8
785	475	851	+ 8.4	New York	4627	4274	4164	—10.1
813	462	952	+17.0	Omaha	5508	5132	5433	— 1.4
697	470	808	+15.9	Philadelphia	4236	4366	4174	— 1.5
767	431	931	+21.3	Pittsburgh	4809	4650	4727	— 1.8
1003	818	1010	+ 0.6	Portland, Me.	6085	6422	5992	— 1.6
530	570	402	—24.2	Portland, Ore.	3603	3529	3761	+ 4.3
866	526	822	— 5.1	Providence	5158	4937	4583	—11.2
616	277	862	+39.9	St. Louis	4209	4022	4248	+ 0.9
409	649	594	+45.2	Salt Lake City	4885	5090	5094	+ 4.2
314	427	278	—11.5	San Francisco	2048	2454	2516	+22.8
1303	919	1286	— 1.4	Sault Ste. Marie	7587	7413	7313	— 3.7
595	605	462	—22.4	Seattle	3816	3831	3924	+ 2.8
889	573	1021	+14.8	Toledo	5442	5298	5297	— 2.7
637	357	769	+20.7	Washington	4133	3666	3660	—11.5

*Compared with normal.

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FILTERS

STRAINERS

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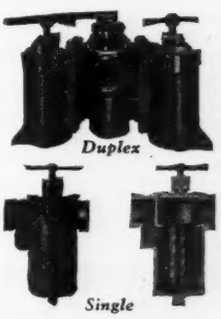
Keep Fuel Oil Lines Open and Active

Year-in, year-out performance proves the skill of KRAISSL engineering design and the honesty of KRAISSL manufacture.

Class 72 Strainers and Filters



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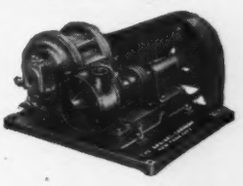
Single and Duplex types for suction or discharge service — any practical degree of filtration in units designed for low pressures as well as up to 500 lbs. hydrostatic test—easily removable filter basket insures quick cleaning.

Class 60 Heavy Oil Pumps

Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.



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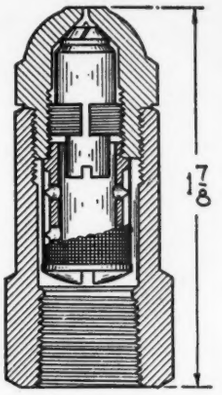

HAGO PRODUCTS

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Brown Establishes Branch in Baltimore

A BALTIMORE BRANCH has been opened by Brown Instrument Co., Philadelphia, Pa., with W. J. Law in charge of sales, assisted by J. F. Maienshein. The branch began operations at 1209 East 25th St., but Brown and its parent company, Minneapolis-Honeywell Regulator Co., occupied larger quarters May 1 at 2100 S. Paul St.

Standard of Indiana Says Oil Demand Changing

THE ANNUAL REPORT of the Standard Oil Co. (Indiana) and its subsidiaries for 1946 shows an increase of 4.3 per cent in total sales over 1945 and describes sales as being in the midst of an important transition with the demand for light heating oils and diesel fuels expanding more rapidly than the demand for gasoline. The report says, "We are now witnessing a shift to dependence jointly upon gasoline and distillate fuels. Once mere by-products of refining, distillate fuels now rank as major derivatives of petroleum." As the demand for heating oil and diesel fuel grows, these products are competing with users of gasoline for their share of crude oil processed into products, continues the report. This whole development, Standard officials believe, is important for the petroleum industry, but it does create new supply problems.

Sid Harvey Planning Another Factory Open House in June

OPEN HOUSE at the plant of Sid Harvey, Inc., Valley Stream, N. Y., will be observed again this year during June, according to plans being formulated by Sid Harvey, president, and Lawrence Harvey, general manager. The firm is inviting oilburner dealers who can be present for one day to take part. The purpose is to acquaint dealers with Harvey facilities, and to show them how to increase the efficiency of their service departments.

Visitors will be invited to inspect the plant where they will be shown live demonstrations on how to diagnose and correct pump and valve troubles in the field and a number of other trouble shooting pointers.

Open House is a one-day affair starting on June 2, and continuing every weekday through June, Saturdays excepted. The program starts at 10:00 A.M. and continues on until 3:00 P.M. with luncheons at a nearby restaurant at noon.

Attendance will be by appointment only in order that the number of visitors may be of convenient size so that individual attention can be given to every one. An average of over 500 have attended Open House in previous years. This invitation is extended exclusively to oilburner dealers and their staff but the acceptance of it does not place the dealer under any obligation.

Opens Montana Office

EXPANSION OF HOME CONSTRUCTION and industry in Montana has led to the opening of an office in Butte by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn. James A. Reynolds, a native of Montana, has been transferred from the company's Seattle office to serve as branch manager in the new office, located in the Phoenix Building.

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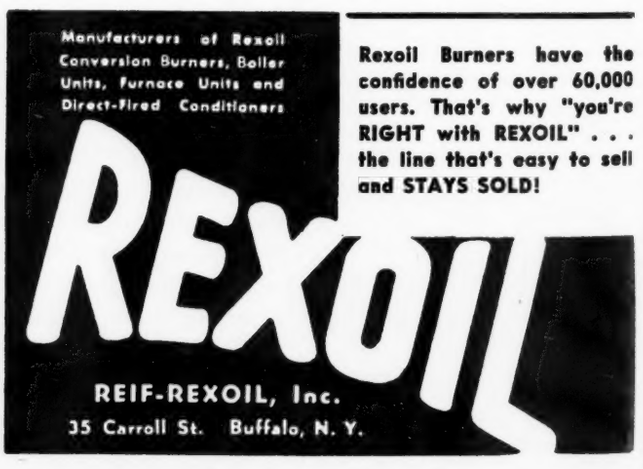
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